

The Analysts Journal

VOLUME 8 : NUMBER 5



NOVEMBER 1952

In This Issue . . .

Editorial

The President's Message	Marvin Chandler	5
Our Authors		6

Articles

Some Thoughts on Income Analysis	George Oliver May	9
Price Freedom for Distributors	Q. Forrest Walker	14
Importance of Railroad Accounting Officer	Pierre R. Bretey	20
Factors Affecting Foreign Investment	Solomon Fabricant	25
Investment Opportunities in India	Donald B. Macurda	29
Changes in Income Distribution	Geoffrey H. Moore	33
The Rate of Military Deliveries	Edwin B. George	37
Aluminum in World Affairs	Edwin J. Mejia	39
Responsibility of Management for Price Level of Stock	Norvin R. Greene	42
The Privilege Dividend Tax in Wisconsin	Walter J. Kohler, Jr.	44
There's Life in Them	Shelby Cullom Davis	46
The Chemical Industry Looks South	Frank J. Soday	51
Oil and Gas and Canada's Future	Carl O. Nickle	61
Profit from Railroad Revenue Dollars	Robert E. Thomas	66
The Best Stock Average from a Practical Viewpoint	Anthony Gaubis	70
Long-Term Trends of Metal Consumption	Edmund A. Mennis	75
An Advance in Medicinal Chemistry	Howard A. Sumner	81
Revenue Bond Financing for Airport Improvement	James C. Buckley	85
The Management Factor in Security Analysis	A. Sheridan Atkinson	93
Growth Aspects of the Insurance Business	John A. Diemand	99
Industrial Location and Migrant Firm	John D. Garwood	102
Significant Railroad Income Account Data		104

Federation and Society Activities and News

Philadelphia Invites the Nation	Morton Smith	110
Sixth Annual Convention Program		108
Eastern Regional Conference	New York Society of Security Analysts	115
Fifth Midwest Forum	Investment Analysts Society of Chicago	117
Professor Bliss's Reading List	Charles A. Bliss	115

Analysts Journal Departments

Book Reviews	Helen Slade	112
Recent Financial Articles		114
Committee Appointments for 1952-53	NYSSA	111
Luncheon Forum Talks		116
Admissions to NYSSA Membership		117

Published by

The NEW YORK SOCIETY OF SECURITY ANALYSTS, Inc.



The best-known name in glass... *means more than glass!*

KNOwn since 1883 as one of the world's leading glass manufacturers, the Pittsburgh Plate Glass Company is also an important factor in America's growing chemical industry.

Pittsburgh Plate's original interest in chemicals stemmed from the fact that high quality soda ash was essential to glass manufacture. As a soda ash producer, "Pittsburgh" naturally expanded into the multi-chemical production now carried on by its wholly-owned subsidiary, Columbia-Southern Chemical Corporation.

Today, Columbia-Southern produces soda ash, caustic soda, chlorine, calcium chloride and a wide range of associated or derivative products. These products are used by the steel, rubber, textile, food and other industries to provide us with the better things of life.

Columbia-Southern's constant research has led to development of many important new processes and products. Important among the new or improved chemicals are the rubber reinforcing pigments such as Hi-Sil and Silene EF and such agricultural chemicals as Chloro-IPC, a chlorinated product for the control of grasses and broadleaf plants.

Columbia-Southern operates five large chemical plants and a coal mine.

As you can see, "Pittsburgh Plate"—the best-known name in glass also means... Chemicals!

**Send for our
FREE illustrated folder**

It explains our history and development and presents a panoramic conception of our operations and affiliations. Write to Pittsburgh Plate Glass Company, Room 2148, 632 Duquesne Way, Pittsburgh 22, Pennsylvania.



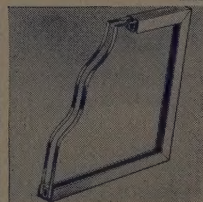
COLUMBIA-SOUTHERN CHEMICAL CORPORATION, A WHOLLY-OWNED SUBSIDIARY — Five chemical plants and one coal mine.



MERCHANDISING DIVISION—194 stores and warehouses located advantageously throughout the nation.



PAINT DIVISION—Fifteen plants. Paints, varnishes and special automotive and industrial finishes are major products. Others are plastics, paint oils, industrial coatings and insecticides.



GLASS DIVISION—Composed of Four Plate Glass Plants, Three Window Glass Plants, a Fiber Glass Plant, a Twin-dow Fabricating Plant and a Pittco Metal Plant.



BRUSH DIVISION—Four plants producing paint, varnish and power-driven industrial brushes, brush handles and synthetic bristles.



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

THE MAJOR TRAVELLED LIGHT

A quarter century ago when the silk shirt was still popular and many business men habitually encumbered themselves with large amounts of baggage when travelling, our first sales manager, Major Ernest Boreham, travelled light. Much of his personal wardrobe was made of fabrics of Celanese* acetate. On one occasion he travelled to Europe with several people who carried the usual quota of trunks and cases. The major, with only a small hand bag, was conspicuous.

"Where is your baggage? How can you live for two months with so little clothing?" one of his companions asked.

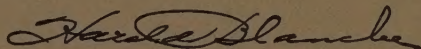
"I carry all I need," the major replied. "My underwear and shirts are made of acetate and will dry overnight after I wash them."

As long as twenty-five years ago Celanese acetate yarn exhibited unique qualities which today are recognized as among the important contributions of chemical fibers to the textile industry. These basic qualities made possible the amazing growth in use of acetate which still continues. Among the solid virtues acetate contributes to fabrics are:

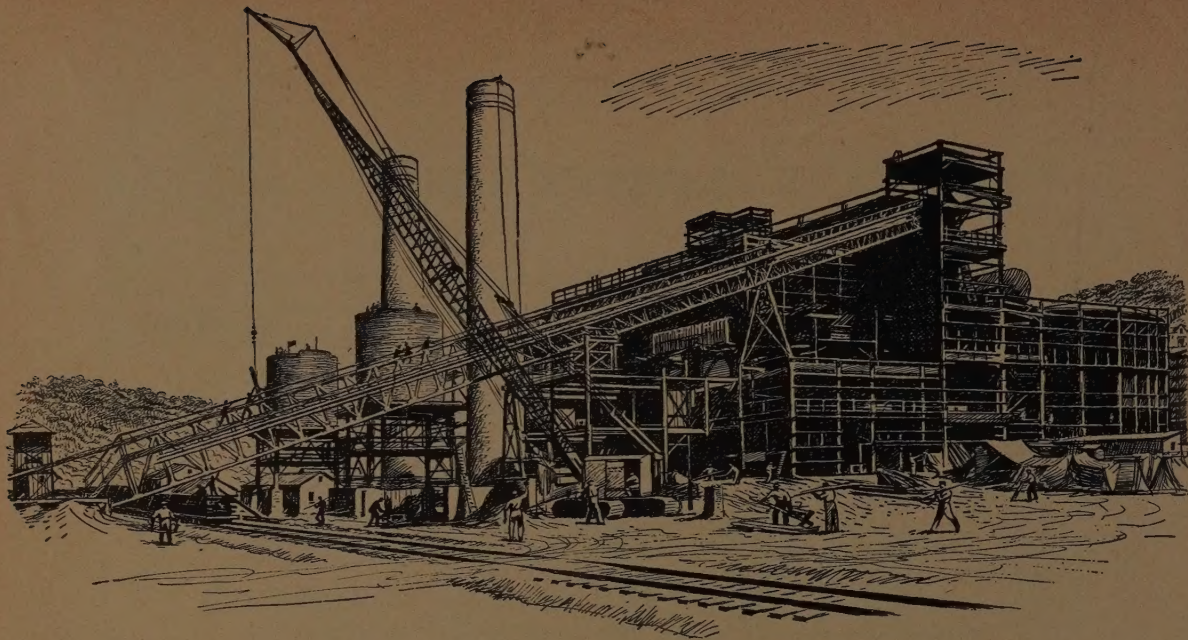
Good wrinkle recovery
Good loft, handle, draping quality
Quick drying
Excellent dimensional stability
Cross-dye pattern possibilities
A very competitive price

Celanese acetate blended with other fibers is increasingly used to make beautifully soft yet rugged fabrics for men's and women's outerwear. It has made possible new long-wearing rugs and carpets in superb colors. It is an accepted staple in the women's wear industry.

Production of acetate in recent years has expanded at a very rapid rate—over 450,000,000 pounds a year is the current production—and continues to find large, new markets. Its many desirable qualities have won Celanese acetate general recognition as one of the world's great textile fibers.



President



*Albright station now under construction
by two of our principal operating subsidiaries.*

High-Powered Growth at West Penn Electric!

In the six-year period after 1945, West Penn Electric has invested about \$188,000,000 in additional facilities to meet the growing needs for electric power of its residential, commercial and industrial customers.

The current year's record construction budget of \$48,700,000 provides for the substantial completion of the first two generating units of a new station at Albright, W. Va., with a combined capability of 150,000 kilowatts and, in part, for the installation of unit No. 3 at that station and unit No. 8 at the Springdale, Pa., station. Each of these units will have a capability of 135,000 kilowatts and is scheduled to be in operation in 1954. Another main project now under way includes construction of 185 additional miles of 132,000 volt transmission lines.

This continuing program benefits both industries and people throughout West Penn Electric's territory of 29,000 square miles... in Pennsylvania, West Virginia, Maryland, Ohio and Virginia. The total capability of the System in 1954 will exceed 1,700,000 kilowatts, more than twice that at the end of World War II. This growth of power supply keeps pace with the technological advance and expansion of industries operating in West Penn Electric territory and with the wider use of electricity in the home.

THE *West Penn*
Electric Company
(INCORPORATED)

50 Broad Street, New York 4, N. Y.



A MARK of lost accuracy

Precision metal parts can lose some of their precision as a result of an ordinary fingerprint. The moisture and acid corrode the polished surface, interfere with smooth operation.

Gulf's new fingerprint remover eliminates this cause of lost accuracy in precision-built mechanisms.

Called Gulf No-Rust FPR, it displaces fingerprint moisture on metal, neutralizes perspiration

acid, and lays down a temporary rust-preventive film.

It helps safeguard such precision parts as ball bearings and gears for aircraft instruments, for example.

Gulf No-Rust FPR is typical of the many new and improved products developed by Gulf's modern research program to help industry step up production and reduce cost. This kind of leadership is an

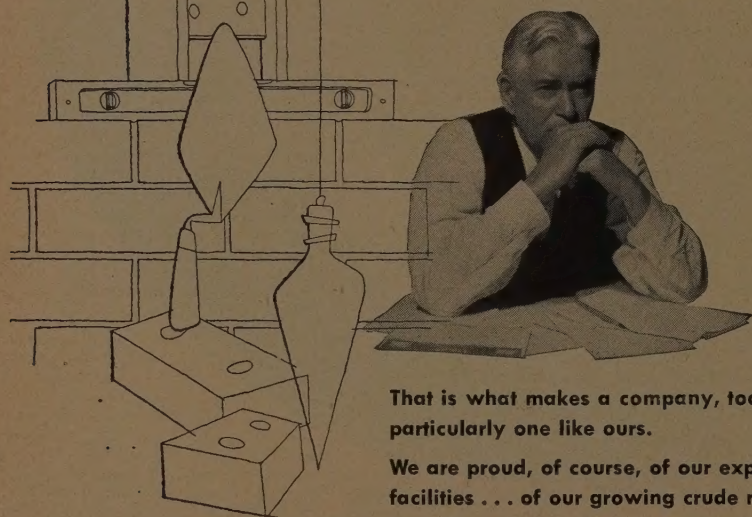
important factor in the industry-wide recognition of quality in Gulf products and dependability in Gulf service.



Gulf Oil Corporation • Gulf Refining Company
Pittsburgh 30, Pa.

"Not houses finely roofed
or the stones of walls well-built,
nay nor canals and dockyards
make the city,
but men able to use their opportunity."

—Alcaeus, 611-580 B. C.



That is what makes a company, too—
particularly one like ours.

We are proud, of course, of our expanding refining
facilities . . . of our growing crude reserves . . . of our
pipe-lines, terminals, tankers, trucks and all the service
stations and other tangible evidence that
The Pure Oil Company is serving America well.

But we are proudest of our people.

Wherever they work—whatever they do—in all the
different jobs our company provides—they are showing
that they are *able to use* the great opportunity given them
by America's need for petroleum products, and
America's way of meeting the need.

• • •

As we join in observing Oil Progress Week, 1952, The Pure Oil
Company salutes its loyal family of 10,000 employees and
15,000 associated dealers.

Without these men and women—without their able efforts,
'round the clock and 'round the calendar—progress could be
little more than an empty word.



THE PURE OIL COMPANY



The Analysts Journal

NOVEMBER
1952

The President's Message

PIERRE R. BRETEY

Editor

HELEN SLADE

Managing Editor

JEREMY C. JENKS

DONALD B. MACURDA

N. LEONARD JARVIS

Associate Editors

MARVIN CHANDLER

JOHN W. SPURDLE

Advisory Committee

JOHN STEVENSON

Business Manager

ALBERT P. SQUIER

Circulation Manager

W. TRUSLOW HYDE, JR.

Advertising Director

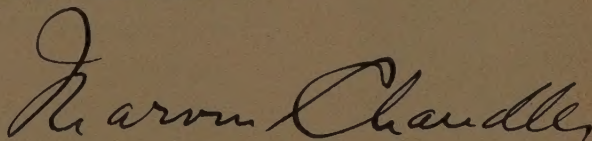
SOME FEW YEARS AGO the greatest problem of the New York Society of Security Analysts was to obtain professional recognition for its members and broaden industry's acceptance of their value in our financial and economic system. This goal for the most part has been attained. Today the financial analyst generally is accepted by industrial leaders as the guiding force in the search for investment values—in the flow of capital to the most promising opportunities. The willingness of most presidents of large corporations to address our Society's luncheon meetings is striking evidence that they appreciate our place. The endeavors of the program chairman have developed toward selectivity among speakers rather than search.

Yet here at our own doorstep we often find our members and our Society still not sufficiently well known, respected, and appreciated among leaders in the financial community. This poses a challenge—a problem which we must solve. It will be solved when recognition is general that the day of "whom you know" has passed and been replaced by "what you know," that careful analysis and sound judgment based on experience are the prerequisites of any investment decision, and that this brings the merits of security analysts to the fore.

A principal objective of the administration of your Society over the coming year will be to enhance our standing with this goal in mind. The standards committee which last year put so much time and thought into a program for professional status for the well-qualified analyst is re-examining this question. Study is also being given to the possibility and desirability of having an associate membership in the Society for persons who are interested in our work but are not practicing analysts. Another committee has been appointed to develop a liaison with the public accountancy profession and explore matters of mutual interest. We are also taking steps to see that the Stock Exchange in its educational program is aware of the importance to investors of our function and that we have a place in their activities. You as members also can help the Society to achieve greater recognition in its own bailiwick, for example, by inviting senior officers of your firms to attend Society luncheons addressed by corporate executives of companies in which they are interested (other than overflow meetings, please), and by urging them to patronize our regional meetings and national Conventions.

Looking at the problem more broadly, we should endeavor to make the investing public aware of the existence and the necessary function of the security analyst, by whose expert judgments it may be guided to sound and profitable investments. This should in turn bring us to the attention of the financial world from the outside rather than directly. Broader security ownership by the public will develop if the public has confidence that the investment advice which it seeks from security dealers, salesmen, and bankers is based on shrewd analysis and experienced judgment, which we can give. When investors understand the role of the security analyst, they will insist that the investment guidance which they receive reflects the analyst's work. Then financial leaders will hear and heed the demands of their customers, and our own position inevitably will be enhanced. With this in mind, we are taking steps to see that our Society and its work are publicized by all appropriate means.

I urge that any of you having ideas on methods of achieving this goal or any other thoughts on the advancement of our Society communicate with me. My deepest desire is to promote the position of all financial analysts.



PRESIDENT

NEW YORK SOCIETY OF SECURITY ANALYSTS

VOLUME 8
NUMBER 5

THE ANALYSTS JOURNAL is published five times a year, in January, March, May, August, and November, by The New York Society of Security Analysts, Inc., a nonprofit membership corporation devoted to the interests of those engaged in investment management and, more specifically, in the profession of security analysis. Publication office: New York Society of Security Analysts Headquarters, Room 908, 20 Broad Street, New York 5, N. Y. Re-entered as second class matter January 30, 1952, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

COPYRIGHT 1952 by The New York Society of Security Analysts, Inc. Printed in the United States of America. Articles may be reprinted only by permission of the Editors.

EDITORIAL COMMUNICATIONS AND ARTICLES FOR PUBLICATION should be addressed to Helen Slade, managing editor, 400 East 57 Street, New York 22, N. Y. Neither the Society nor the editorial staff is responsible for the facts or opinions contained in articles appearing in THE ANALYSTS JOURNAL.

ANNUAL SUBSCRIPTION price for four issues is \$4; foreign subscription \$4.50; single copies are \$1.25. Checks should be drawn to the order of THE ANALYSTS JOURNAL and forwarded to the subscription department, 20 Broad Street, New York 5, N. Y.

ADVERTISING DIRECTOR: W. Truslow Hyde, Jr., Josephthal & Company, 120 Broadway, New York 5, N. Y.

The New York Society of Security Analysts, Inc.

Officers

MARVIN CHANDLER	<i>President</i>
SIDNEY B. LURIE	<i>Vice-President</i>
JOSEPH S. STOUT	<i>Treasurer</i>
ALBERT P. SQUIER	<i>Secretary</i>

EXECUTIVE COMMITTEE

NATHAN BOWEN
PIERRE R. BRETEY
GLENELG P. CATERER
JOHN F. CHILDS
LAWRENCE C. COOPER
SHELBY CULLOM DAVIS
JOSEPH M. GALANIS
LANCASTER M. GREENE
JEREMY C. JENKS
W. STURGIS MACOMBER
DONALD H. RANDELL
JOHN W. SPURDLE
JOHN STEVENSON
WILLIAM R. WHITE
HERBERT F. WYETH

COMMITTEE CHAIRMEN

LAWRENCE C. COOPER	<i>Constitution</i>
JOHN F. CHILDS	<i>Corporate Relations</i>
JOSEPH C. BICKFORD	<i>Employment</i>
W. STURGIS MACOMBER	<i>House</i>
CHAUNCEY L. MITCHELL, JR.	<i>Membership</i>
WILLIAM R. WHITE	<i>Program</i>
PIERRE R. BRETEY	<i>Publications</i>
GLENELG P. CATERER	<i>Standards</i>

GROUP LEADERS Luncheon Forums

WILLIAM R. WHITE	<i>Program Chairman and Director</i>
DONALD H. RANDELL	<i>Industrials</i>
NATHAN BOWEN	
DOUGLAS DELANOY	
LOUIS M. FAULKNER	
LAWRENCE R. KAHN	
FRANK K. WOODFIN	
LAWRENCE T. RYAN	<i>Utilities</i>
GEORGE D. FREEMAN	
THEODORE J. KOMOSA	
LONGLEY G. WALKER	
ARTHUR M. LEINBACH	<i>Railroads</i>
EDWARD S. WILSON	
ISABEL H. BENHAM	
LANCASTER M. GREENE	<i>Special Subjects</i>
LAWRENCE W. FAIRFAX	
NORVIN R. GREENE	
HELEN SLADE	

GEORGE OLIVER MAY, certified public accountant, is a senior partner of Price, Waterhouse & Company and has been with that firm since 1897. He is a director of the Dry Dock Savings Institution and of the Council on Foreign Relations.

Q. FORREST WALKER has been economist and investment adviser for R. H. Macy & Company since 1924, and secretary since 1940 and director since 1942 of Macy's Bank. He was previously employed as economist, tax consultant, and investment adviser by National City Company. He lectured on corporation finance and investments for the New York Chapter, American Institute of Banking from 1919 to 1931 and 1941 to 1943.

PIERRE R. BRETEY, editor in chief of THE ANALYSTS JOURNAL, has for many years served as railroad analyst for Baker, Weeks & Harden. Reports and articles by Mr. Bretey on railroads are among the most distinguished in the financial field. He teaches at the Stock Exchange Institute and is well known as a lecturer. He is past President of the National Federation of Financial Analysts Societies and of the New York Society of Security Analysts.

SOLOMON FABRICANT is a professor at New York University and is the author of many books on cycles.

DONALD B. MACURDA is associated with The First Boston Corporation in a senior capacity. For several years he has headed industrial research at Clark, Dodge and Company, specializing in chemicals, steels, and light metals. He began his investment career with Estabrook & Company, serving in both their Boston and New York offices in various capacities for seventeen years.

GEOFFREY H. MOORE is with the National Bureau of Economic Research. He has written many articles on trends and what influences trends and price movements.

EDWIN GEORGE has been economist for Dun & Bradstreet and associate editor of *Dun's Review* since 1936. He is on the committee on economic policy of the U. S. Chamber of Commerce and consultant to the National Securities Resources Board. He received the Charles Coolidge Parlin Memorial Award in 1946 for contribution to the advancement of marketing. He has served as consultant for the U. S. Department of Commerce, the NRA, the WBP, and the House of Representatives.

EDWIN J. MEJIA is vice-president of Aluminium Limited in Montreal.

NORVIN R. GREENE is a partner of Lancaster & Norvin Greene and is an authority on industrial issues and corporations.

WALTER J. KOHLER, JR., Governor of the state of Wisconsin, is interested in the subject of taxation for the public welfare.

SHELBY CULLOM DAVIS is a partner of a New York stock brokerage firm bearing his name which specializes in insurance stocks. He was formerly Deputy Superintendent of Insurance of the State of New York and is a past President of the New York Society of Security Analysts.

Authors

FRANK J. SODAY has been engaged in research work for both governmental and private organizations, including Petroleum Refining Laboratories and Copolymer Corporation, which spearheaded research on synthetic rubber; Monsanto Chemical, United Gas & Improvement, Devoe & Reynolds, and Lion Oil. He is research director of the Chemstrand Corporation.

CARL O. NICKLE is publisher of the *Daily Oil Bulletin* in Calgary, Alberta, Canada, and is member of Parliament for Calgary West.

ROBERT E. THOMAS has been manager of railroad investments of Keystone Custodian Funds since 1947. He is a lecturer on railroads at Northeastern University and vice-chairman of the investor panel, Transportation Association of America.

ANTHONY GAUBIS has been in business for himself as an investment counselor since 1946 and publishes a weekly market commentary under the title "Business & Investment Timing." His previous positions have included vice-president and head of research department of a large midwestern investment counsel firm, vice-president in charge of research for Investors Management Company, and member of the economic staff of American Telephone & Telegraph Company.

EDMUND A. MENNIS is the author of books on mutual funds and issues.

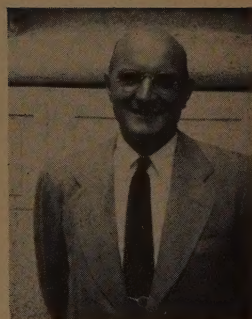
HOWARD A. SUMNER, an authority on medicinal chemistry, is president of the Eaton Laboratories.

JAMES C. BUCKLEY now heads the consulting firm of James C. Buckley, Inc., which specializes in terminal and transportation problems. Formerly he was associated with the Port of New York Authority as director of airport development, as chief of the agency's bureau of planning, and as its principal economist.

A. SHERIDAN ATKINSON is management consultant for McKinsey & Company, specializing in finance. For six years he was investment adviser to the Regents of the University of California. He has served on the president's staff of the U. S. Steel Corporation, as assistant to the president of Golden State Company, and as investment analyst for Heller Bruce & Company, investment bankers.

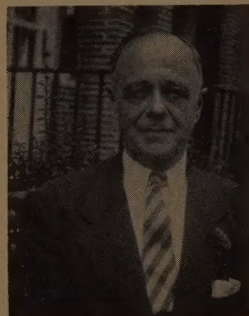
JOHN A. DIEMAND has been president of the Insurance Company of North America since 1941. He is a director of many insurance and banks and trust companies, of the Pennsylvania Railway and the Philadelphia Electric Company, and a trustee of several colleges.

JOHN D. GARWOOD is associate professor of economics at Fort Hays Kansas State College in Hays, Kansas. His articles on industrialization in Colorado and Utah are appearing in *The National Tax Journal*, *The American City, Economic Geography*, *Public Utilities Fortnightly*, and *The Management Review*.



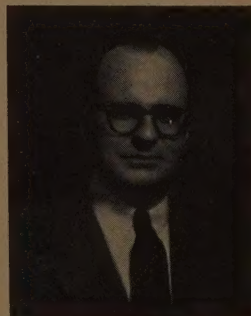
Lancaster Greene

MARVIN CHANDLER
President, New York Society
of Security Analysts



Lancaster Greene

WILLIAM R. WHITE
Chairman, Forum Committee,
NYSSA, and Chairman and
Director for the Eastern Regional
Conference to be held
at the Hotel Statler, New
York, November 24, 1952



Affiliated Photo-Conway

GRANT WEBB
Advertising Agent for
THE ANALYSTS JOURNAL

"The Best Possible Telephone Service at the Lowest Cost"

Twenty-five years ago, on October 20, 1927, the Bell System put into writing, for all the world to see, the basic principles for the management of the business.

The policy tells the people what they have a right to expect from the company. At the same time, it commits everyone in the Bell System to a high standard of conduct for the business. The promise of "the best possible telephone service at the lowest cost" intensifies the effort to make that promise come true.

The never-changing policy of fair treatment for those who invest in the business, those who work for it, and those who use the service, will bring still greater progress in the years to come.



Responsibility to TELEPHONE USERS

"The fact that the responsibility for a large part of the telephone service of the country rests upon the American Telephone and Telegraph Company and its Associated Companies imposes on the management an unusual obligation to the public to see to it that the service shall at all times be adequate, dependable and satisfactory to the user.

"Obviously, the only sound policy that will meet those obligations is to continue to furnish the best possible telephone service at the lowest cost consistent with financial safety."

Responsibility to TELEPHONE SHARE OWNERS

"The fact that the ownership is so widespread and diffused (*there are now more than 1,100,000 share owners of the American Telephone and Telegraph Company*) imposes an unusual obligation on the management to see to it that the savings of these people are secure and remain so.

"Payments to share owners, limited to reasonable regular dividends, with the right to make further investments on reasonable terms as the business requires new money from time to time, are to the interest of telephone users and employees as well as share owners."

Responsibility to TELEPHONE EMPLOYEES

Many years ago, in its annual report to share owners, the company's responsibility to its employees was expressed in these words:

"While the Bell System seeks to furnish the public the best possible service at the least cost, the policy which recognizes this obligation to the public recognizes equally its responsibilities to its employees.

"It is and has been the aim to pay salaries and wages in all respects adequate and just and to make sure that individual merit is discovered and recognized."

Bell Telephone System



Some Thoughts on Income Analysis

Accounting and Economic

GEORGE OLIVER MAY

THE TWENTIETH CENTURY has seen a great increase of interest in the concept of "income," in government, economics, and accounting. The influence of economists and accountants in all sectors of the economy has grown enormously. The questions "What is income for a given short period?" and "Who shall decide how it shall be defined and measured?" have assumed constantly growing significance.

INFLUENCE OF FEDERAL GOVERNMENT

Income taxation under the Constitution is the only form of direct Federal taxation on the ownership of wealth by individuals or its fruits that is permitted, without apportionment between the states, and that only since the adoption of the Sixteenth Amendment. (Taxes may be levied on the *disposition* of wealth by gift or inheritance.) The Federal Government has found in it a powerful instrument for the redistribution of wealth. In restriction of permissible income it has found an instrument of control over utilities which are permitted to exercise the rights of eminent domain.

A growth in importance of the concept in the business world has resulted from the increase in number and importance of business corporations and of investors therein, which, in turn, is a resultant of mass production.

In the field of taxation the Courts have imposed limitations of some importance on the power of the Federal Government to define income of individuals. In the case of corporations, this is not so; excise taxes may be levied on them on bases other than the income contemplated in the Sixteenth Amendment.

In the regulatory field the Federal agencies have, over the last fifteen years, established their right to define income as they please within wide limits, and to prescribe one form of accounting and proscribe all others. They have even been accorded the right to do so in cases in which only a small fraction of business done by a utility is of an interstate character and the state has proscribed different procedures.

With respect to listed corporations other than utilities, the Securities & Exchange Commission exercises an influence that is not well defined and is often indirect but is very real and, potentially, perhaps much more controlling over the income determinations of the large business corporations whose securities are dealt in by the general public.

ACCOUNTING INFLUENCE

In finance and in the accounting field there has been a shift of emphasis from the balance sheet to the income statement; due mainly to the increase in the extent to which

expenditures are made with an expectation of long usefulness and in the extent to which corporations are financed by equity securities. In this area, what used to be described graphically as "the pounce value" of assets has lost most of its significance; businesses are reorganized with interests therein redistributed, instead of being liquidated, so long as they have prospective earning capacity.

Small businesses constitute a group, large in number, which does not come under the Securities & Exchange Commission or other Federal regulatory bodies. Many accountants deal only with this class of client and therefore are little affected by the attitude of those bodies. Their reports are made to clients familiar with the businesses under consideration. The service which they render differs greatly in character from that rendered by accountants to the utilities, or to a few thousand other companies whose securities are widely distributed and listed on the security markets. These accountants exercise powerful influence in state and national accounting bodies.

The economist or analyst who uses material of an accounting origin may well have difficulty in appraising the significance of accounting concepts and methods.

ECONOMIC INFLUENCE

Similarly, the accountant who is concerned with the uses made of accounts by persons other than his clients has difficulty in appraising the needs of economists, for economic doctrine seems to be as much in a state of flux as accounting concepts and methods, if we may judge from current economic literature.

He finds economic studies of at least three different types. First there are the works of econometrists whose abstruse mathematics he is probably unable to follow but whose assumptions may excite doubt. Next come the works on economic theory, among which those of Keynes, Keynesians, and anti-Keynesians occupy prominent positions. He will probably not have attacked the *General Theory of Employment Interest and Money*. He may, however, have read discussions of it or Harrod's biography and have gained the impression that Keynes brought to the world a new economic gospel.

But, if he reads, let us say, the presidential address to the American Economic Association delivered last December (*American Economic Review*, March 1952, page 2), he will find Professor John H. Williams accepting the view of Keynes that the victory of Ricardo's economic theories in the first half of the last century was "due to a complex of suitabilities in the doctrine to the environment," but suggesting that the same is true of his forerunner Adam Smith, and of Professor Keynes himself. Williams adds: "Very much in the literature of economics strikes me as

rationalization after the event. This is not, however, necessarily a belittling comment provided we know what we are doing and recognize the limitation."

The accountant who has read discussions of Hicks's *Trade Cycle*, or perhaps the book itself, finds Professor Arthur F. Burns applying empirical tests to the theoretical conclusions reached by Hicks and is not surprised that he finds them wanting.

Moving a step further down, the accountant knows there are flaws in some of the statistical series derived from accounting data by bodies such as the National Bureau of Economic Research, of which Dr. Burns is the head.

And, since, as already suggested, the economist or statistician can readily find serious defects in the methods employed by accountants in compiling their income determinations, the circle is complete.

NEED FOR CO-OPERATIVE STUDY

One conclusion seems obvious—that there should be closer co-operation in the study of these problems between the various disciplines. Another is, I suggest, that all should refrain from using the word *income* without a limiting adjective, now that the word has become so important a semantic weapon in political conflict. For, since 1935 at least, income taxation has been regarded as a means of redistribution of wealth, and, since this is the only means of reaching the wealth in the ownership of individuals or its fruits, the interpretation of the word as used in the Sixteenth Amendment is a question of great political importance.

INCOME IS NOT HOMOGENEOUS

Income that is derived from a flow of activities and is measured in monetary units of reasonably constant purchasing power has a significance quite different from the "income" that reflects only a change in general purchasing power of the unit (money) in which the elements, positive and negative, that go to make up income are expressed. Different again are the significances of income from occasional transactions which represent

(a) An increase in capitalized value due to an increase in the stream itself, or

(b) An increase in the rate at which streams are being capitalized, or

(c) A decline in the purchasing power of the units in which values are expressed.

Isolation of these different elements is not easy to effect, but neither are the isolations that are being effected with such great success in medicine and other sciences. We should work toward a better classification of income and meantime keep constantly in mind the existence of types that differ in both ease of measurement and social significance.

CHANGING CONCEPTS OF BUSINESS INCOME

The need for the mutual understanding and co-operative study of which I have spoken was borne in on me during three years of service as a consultant with the Study Group on Business Income (consisting of economists, statisticians, lawyers, accountants, and others) whose re-

port was published in January 1952 by Macmillan under the title *Changing Concepts of Business Income*.

As consultant for the study group, and later as a member of it charged with the duty of preparing a draft report, I suggested the inclusion in the report of a brief historical discussion of accounting theories which would disclose the conventional and utilitarian character of accounting, some of the postulates on which it is based, and some of the more important changes in the approach to income determination over the last fifty years. The suggestion was adopted, and the discussion contemplated is presented in section 3 of the report.

POSTULATES OF BUSINESS ACCOUNTING

In this section, three postulates of accounting are mentioned as of special importance:*

1. Fluctuations in value of the monetary unit, which is the accounting symbol, may properly be ignored.

2. In the absence of actual evidence to the contrary, the prospective life of the enterprise may be deemed to be indefinitely long.

3. The entire income from sale arises at the moment when realization is deemed to take place.

The postulate of indefinite continuance does not result in any serious limitation of the significance of income determinations of established businesses. It is consistent with the practice in the treatment of personal income, in which the prospective termination of life is ignored. Its greatest practical significance is that it makes the cost of replacement rather than the cost of property replaced the logical basis for charges in respect of exhaustion of property. This corollary was accepted in the accounting of railways and public utilities in Britain in the last century—notably in the Regulation of Railways Act of 1868, which reflects the most sophisticated and internally consistent concept of business income of that or even perhaps this century.

THE MONETARY POSTULATE

The monetary postulate seriously limits the significance of determinations in times of marked or continuous inflation or deflation of prices. It is of particular importance, for instance, in comparing statistics for the last quarter of the nineteenth century with those for the first quarter of the twentieth, or statistics for the 1930's with those of the 1940's. The importance of the monetary postulate is enhanced by the facts that:

"Business income" derived from manufacture or merchandising is the difference between positive elements which may be called revenues and negative elements which may be termed generically costs and expenses.

The positive elements are, broadly speaking, realized as well as expressed in units of the purchasing power of the monetary unit in current use. The costs, though expressed in current monetary units, are likely to a great extent to represent expenditures made in units of a different purchasing power.

(It is a not uncommon practice to attempt to adjust in-

**Op. cit.*, page 20.

come for one year so as to be comparable with that of another by the use of a price index applied to net income. But, as the Department of Commerce recognizes, it is necessary in the case of business income to deal separately with the positive and negative income elements if a significant comparison is to be made.)

There is no uniformity in determining whether, when property is consumed or disposed of in the production of revenues, the cost to be charged shall be that of the property consumed or that of the property which replaces it.

THE REALIZATION POSTULATE

The realization postulate yields a reasonably satisfactory conclusion in respect of routine transactions. But, the report points out, it has the defect that, "apart from routine transactions, it may make income too dependent on decisions to take, or refrain from taking, a given action. It is, however, an inherent characteristic of income determinations that they are to a substantial degree subjective, whether decisions rest with managements, stockholders, regulatory bodies, or others."[†]

This defect has become more serious with the great increase in the rate of income taxation. Today the income tax effect of any proposed action is constantly in the mind of the businessman. The consequences have not yet been fully realized.

PERSONAL INCOME

When we turn to consideration of personal income we find the significance of the statistics affected by the same postulates and also by the existence and dual personality of the corporation.

Many who seek to use income taxation to bring about a less unequal distribution of income chafe at the restrictions imposed by the realization postulate but accept the monetary postulate because it serves their purpose. (The dual personality of the corporation affords an opportunity for double taxation.) Hence we find in economic discussions attempts to extend the definition of income to include all accretions to economic power. This may be sought by invoking a doctrine of constructive receipt, by enactment of measures tending to force realization, or by complete elimination of the restriction of income to realized gains. The inclusion in income of gains which reflect only a decline in the value of money is accepted either on the basis that the virtues of the result outweigh its theoretical deficiencies or by contending that income is a *relative* concept and those who escape the losses due to inflation have income as compared with those who do not. We are not here concerned with the merits of these contentions but only with the effect upon the significance of available statistics of income from year to year of their adoption in varying degrees in tax legislation over the years since 1913.

NOW OR NEVER INCOME

In any study of personal income as between years, it is essential to recognize a distinction between those types of income that must be realized currently or not at all and

those that can be taken at the moment that seems most opportune. Income from wages and salaries formerly fell almost wholly in the first class and to a large extent still does so, though the growth of pensions and other deferred forms of compensation have materially changed the situation in this respect.

Individual income derived directly from merchandising also falls in the first class. Other classes of income, of which capital gains are perhaps the best illustration, are most likely to be taken when the combination of circumstances exists which makes that procedure desirable.

CAPITAL GAINS

Capital gains are especially likely to be taken when the three conditions exist that:

- (a) There are large unrealized appreciations which constitute potential income.
- (b) There is strong probability that they will disappear.
- (c) The tax situation is favorable.

This combination was strikingly illustrated in the years 1928 and 1929 when market prices were high, there were signs of an impending fall, and tax rates were moderate (not exceeding $12\frac{1}{2}\%$). This combination is sufficient to account for the magnitude of the capital gains reported in 1928 and 1929.

The importance of the point here made may be illustrated by statistics taken from the study of capital gains and losses recently published by the National Bureau of Economics.[‡] Net capital gains reported in round figures were \$4.8 billion in 1928 and \$4.7 billion in 1929. In 1919 and 1920 they were \$1.0 billion and in 1936 (the highest total for the period 1931-40) they were \$1.4 billion. In the over \$1 million brackets they were \$729 million in 1928 and \$859 million in 1929 compared with \$2 million in 1918 and \$38 million in 1919 or with \$142 million in 1938, the highest total for the years 1931-40.

In 1919 there were large potential gains on stock holdings as a result of retentions of war profits and of a fall in the value of money, but the fact that gains were taxable at rates up to 73% was a deterrent to realization. The fact that as much as \$38 million was reported in 1919 in the over \$1 million bracket was due mainly to sales of stock of the Ford Motor Company to Henry Ford. These sales were made possible only by a ruling that, of the actual profit of \$12,500 to \$13,500 per share, no less than \$9,500 accrued before March 1, 1913, and was therefore nontaxable. Actually the taxed gain per share was far less than the undistributed earnings per share for the two years preceding the sale.[§]

POTENTIAL GAINS IN 1928-29

The existence of potential gains on a large scale in 1928 and 1929 was due in part, of course, to high profits from business. It was not attributable to decline in the value

[‡]*The Nature and Tax Treatments of Capital Gains and Losses*, pages 367-368, Seltzer, 1951.

[§]The danger that lurks in use of these statistics without constant regard to the changing conditions under the tax law is strikingly illustrated in Seltzer's discussion of this case at pages 110 and 223.

[†]*Op. cit.*, page 17.

of money; for seven years prices had been remarkably stable. It was largely attributable to a belief that a new stability had been created which had greatly increased the ratio of capital value to earnings. Partly also it was attributable to developments in the public utility holding field (including the weight given by the Courts to reproduction costs in rate cases and the treatment of stock dividends as income to the extent of their market value), which carried American and foreign power common stock, for instance, to about \$200 a share (now selling at the equivalent of only a fraction of a dollar). These years had something of the quality of the years of the South Sea Bubble and must be regarded as abnormal. The year 1929 was the peak of a movement, not the end of an economic era.

THE CORPORATE SYSTEM

The creation of a generally available system of corporate ownership with limited liability has played an indispensable part in the development of mass production, but many characteristics of the system in the United States have aggravated difficulties in the determination, and allocation to years, of the benefits that accrue through corporations to individuals. Among these characteristics are the facts that the system is under the control of the states and cannot therefore be easily or effectively co-ordinated with the tax legislation of the Federal Government, the diversity of types of corporation ranging from those that are merely the other self of the individual to those in which the role of the individual stockholder is almost negligible; the absence of any system of classification; and the ease with which corporations are formed and dissolved.

High rates of tax have stimulated efforts to take advantage of the resulting complexities to lighten the tax burden. The tax history of the large number of corporations whose owners can readily adjust their procedures to meet new legislation has over the last forty years been a story of new efforts to tax and new maneuvers to avoid taxation.

The question "What is the ultimate incidence of a tax on corporate income?" is an economic question of high importance. It admits of no general answer in respect of either individual years of a series or of corporations as a whole in any one year, nor can a single answer be given for all rates of tax.

Only those who have lived with the problems over the years can fully realize how severe are the limitations imposed by the conditions that have been discussed on the significance and comparability of statistics of personal income taken from income tax returns over a long series of years.

INCORPORATION OF SMALL BUSINESSES

What are the effects of interposing a corporation between a taxpayer and a business he has been carrying on? In the case of a business that is continuously prosperous, interposition of the corporation usually has these effects:

1. A portion of what has previously been treated as business income is converted into income from services.

2. Only a portion of the remaining business income enters promptly into the determination of the income of

the taxpayer. This may occur in the year in which the profit is earned or in the succeeding year.

(Laws imposing penalties for failure to distribute profits usually recognize that profits for a year are not determined until early in the succeeding period and accept distribution within sixty or ninety days of the year-end as averting the penalty.)

3. The remainder of the income is accumulated and may be drawn on to provide dividends in a later unprosperous year or to offset losses.

When there is a loss for a year, this loss is not deducted from other income of the taxpayer as it would be if there were no intervening corporation. There is no device by which losses are passed on to stockholders as profits are passed on in the form of dividends.

In the first year of loss the income reported as compensation may well continue unchanged and perhaps a dividend may be paid out of the profits of the preceding or even an earlier year.

The Commerce statistics show that corporate profits after taxes fell from \$8.4 million in 1929 to \$1.3 billion in 1931, but dividends fell only from \$5.8 billion to \$4.0 billion. There is, of course, no reason to suppose that the proportions would be the same for different types of corporations.

EFFECTS OF CONDITIONS DISCUSSED

The years since 1922 may be divided into periods in which the effects, of the conditions noted were markedly different. From 1922 to 1929 prices were fairly stable (though roughly 50% higher than prewar), taxes were relatively low; there was no great incentive to incorporation for income tax reasons. The years 1928 and 1929 were abnormal, a point that has been touched on.

The period following 1929 included years of very heavy losses and falling prices, increasing taxes, and beginning about 1933 or 1935 a new economic policy. This was followed by a period in which taxes were rising still higher and prices were steadily advancing. In the second half of the period there were strong incentives to incorporation, though they were, to some extent, checked in the later years by extraordinary measures relating to taxation of private corporations.

In the first part of the period probably the defects of the tax returns did not have any major effect on the year-to-year comparability of income of individuals from business. In the rest of the period they had a very great effect on the comparability and at times virtually destroyed it.

Attempts are frequently made to adjust statistics such as those derived from income tax returns so as to allow for retained earnings (or dividends in excess of current earnings) by either attributing them to stockholders or treating capital gains as income of the year in which reported or perhaps both.

Neither method is generally satisfactory. A first step toward a solution of the problem presented is a separation of the statistics relating to the few thousand corporations whose securities are widely distributed from those of the hundreds of thousands of other companies, and the application of different methods to the two groups. The attribution of undistributed profits to stockholders might for some

purposes be warranted in the case of the second group. A useful undertaking would be a study of the reports of the many large companies which have been operating for fifty years or more to show the effects of their income retentions on their present position and the value of their securities; it would doubtless be shown to be very varied as between types and in different periods.

There has been much misconception on the subject of capital gains resulting from the application of the *post hoc propter hoc* assumption. There is seldom any close relation between the amount of the capital gains on sales of common stocks and the amounts of the profits retained. Interesting evidence on this point could be obtained from such a study as has been suggested. Market prices of stocks are determined mainly by expectations concerning the future; insofar as prices are influenced by past earnings it is the expectation of future profit created by the earnings in the past rather than the retained earnings that influences the price.

Recent increases in the rates of income tax and extension of its application have brought about a situation in which actions not only of corporations but also of individuals are influenced to a great extent by consideration of their probable net effects after allowing for taxes. This cannot fail to have a disturbing effect on the significance of statistics of corporate profits and personal income, which all analysts must reckon with.

CONCLUSION

In conclusion, let me say that I recognize the necessity in both accounting and economic analysis of making estimates for specific purposes that can only be very rough.

On this point I might quote a comment which I made at a meeting of the Academy of Political Science some years ago on a TNEC monograph in which reference was made to two types of statisticians—factual and “constructional”:

The first group are people who take a mass of fact and try to express out of it the essence in a form in which it can be assimilated without difficulty by people who have to deal with the subject. The other group take quite a different model. Their model is perhaps the French housewife. They pride themselves on their ability to take a mere modicum of fact, and with a blend of unverified assumptions, and by a delicate process of statistical manipulation and perhaps some torture of terminology, they produce something that is palatable though perhaps not very healthy or containing very much in the way of vitamins.

The unfortunate thing is that these people know what they are doing, but when they have done it and put forward their highly tentative and perhaps very dubious conclusions, those conclusions in the next stage of their existence are separated from their past, change their name, and are introduced into political society as if they were facts.

A similar danger is incurred when accounting or statistical determinations are used for purposes other than those for which they were compiled without adequate recognition or disclosure of the infirmities of the process of determination. This warning is, I believe, particularly applicable to statistics of income based on tax returns for the forty years during which we have been experimenting with this form of taxation, and extending its application prodigiously.

They Make the Facts Available . . .

. . . The companies listed below are rendering a service to American industry by means of practical financial public relations. Their objective is better understanding between management and investors . . . security houses . . . the financial press.

As financial public relations counsel for these forward-looking companies, we can supply you with up-to-date information about their activities, progress, and prospects.

Affiliated Gas Equipment, Inc.
Chicago and Southern Air Lines, Inc.
Colonial Sand & Stone Co., Inc.
Detroit Steel Corporation
Drewrys Limited U.S.A., Inc.
Newport Steel Corporation
Pfeiffer Brewing Company
Robertshaw-Fulton Controls Co.
The Thew Shovel Company



STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1908, AND JULY 2, 1946 (Title 49, United States Code, Section 288), OF THE ANALYSTS JOURNAL, published five times a year at New York, N. Y., for October 1, 1952.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

THE NEW YORK SOCIETY OF SECURITY ANALYSTS, INC.
20 Broad Street, New York 5, N. Y.
Editor, PIERRE R. BRETEY,
1 Wall Street, New York 5, N. Y.
Managing Editor, HELEN SLADE,
400 East 57th Street, New York 22, N. Y.
Business Manager, JOHN STEVENSON,
60 Wall Street, New York 5, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

The New York Society of Security Analysts, Inc.,
20 Broad Street, New York 5, N. Y.

President: Marvin Chandler, 30 Vesey St., New York 7, N. Y.
Vice President: Sidney B. Lurie, 25 Broad St., New York 4, N. Y.
Treasurer: Joseph S. Stout, 14 Wall Street, New York 5, N. Y.
Secretary: Albert P. Squier, 20 Broad St., New York 5, N. Y.

3. The known bondholders, mortgages, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are:

None. It is a non-profit organization.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

JOHN STEVENSON,
Business Manager

Sworn to and subscribed before me this 5th day of September, 1952.
MARGARET WILKEN
Notary Public State of New York.
Qualified in Queens County, No. 41-9672100.
Certificate filed with Queens and New York Co.
Clk. & Reg. Term expires March 30, 1954.

Price Freedom for Distributors

Q. FORREST WALKER

RESALE PRICE FIXING, or "resale price maintenance" as it is often more subtly described, has been a subject of perennial controversy in marketing and trade circles.

The term connotes those arrangements by which the manufacturer of a branded item dictates its resale price after he has passed title to the purchaser. The controversy has centered largely on the legality and economic justification of contracts or agreements between buyers and sellers to accomplish this purpose.

Back in 1908, in *Bobbs-Merrill Co. v. Straus*,¹ the U. S. Supreme Court held that a copyright owner could not, by notice, restrain the sale of copyrighted books at retail at lower prices than stipulated in the notice.

As early as 1902 it was decided, in *Bement v. National Harrow Co.*² that a patentee might impose reasonable conditions on a licensee including a restriction on the price at which the licensee sold the patented article, on the theory that, failing such a restriction, the patentee might not be able to realize an adequate profit.

In subsequent cases, and notably in *U. S. v. General Electric Co. et al.*,³ decided in 1926, it was ruled that, while the patentee might control the sale price of the licensee, he could not lawfully control the resale prices of the patented article manufactured by him or the licensee when either or both had passed title to others. In the *General Electric* case, it was also decided that a manufacturer could dictate resale prices if he marketed his product by means of bona fide agency contracts.

PRICE FIXING BY CONTRACT

Patents and copyrights were involved in the foregoing cases, but the *Dr. Miles Medical Co. v. Park*⁴ decision in 1911 is generally considered the great landmark in the legal history of resale price fixing by contract. This decision firmly established the principle that, insofar as interstate commerce was affected, restraints on the alienation of chattels by means of resale price-fixing agreements were invalid under the common law and the Sherman Antitrust Act.

In 1919, in the *Colgate* case,⁵ the U. S. Supreme Court decided that, in the absence of express or implied agreements concerning resale prices, a manufacturer could refuse to sell dealers who failed to observe his suggested retail price.

In *Federal Trade Commission v. Beech-Nut Packing Co.*⁶ decided in 1922, it was held that the use of any co-operative means to establish a system of resale price fixing by refusal to sell dealers who sold below suggested prices was unlawful.

These are some of the high lights of the legal history of resale price fixing from 1908 to 1927. However much

the lower Federal courts and state courts may have wobbled in their consideration of resale price-fixing cases, the U. S. Supreme Court adhered steadfastly to the principle that resale price fixing by contract or agreement and affecting interstate commerce was unlawful.

After the decision came down in the *Dr. Miles* case, it became clear to interested manufacturers and dealers that, without statutory authorization, systems of resale price fixing by contract or agreement could not be sustained. The effort to secure Federal legislation for this purpose began in 1914 when the Stevens bill was introduced in the House. It failed.

The next year a similar bill, known as the Stephens bill, was introduced. It also failed of passage.

For the next fourteen years, bills with a similar purpose were introduced at each session by Representative Clyde Kelly of Pennsylvania. The late Arthur Capper became a joint sponsor on the Senate side, and the Capper-Kelly bills were regularly introduced up to the passage of the National Industrial Recovery Act in 1933.⁷ None of these efforts to legalize resale price fixing by contract in interstate commerce was successful.

THE NRA PERIOD

During the NRA period a number of codes were approved that sanctioned various forms of price fixing.⁸ The General Retail Code restricted retail price competition to net invoice cost plus 10%; the Retail Drug Code placed the lower limit of retail price competition at the wholesaler's dozen-lot price; and the Retail Book Code gave direct sanction to resale price fixing by the publisher. Fortunately, the U. S. Supreme Court closed this chapter on May 27, 1935, when it held the National Industrial Recovery Act to be unconstitutional.⁹

After the demise of NRA, it became apparent to the price-fixing interests that there was little hope of securing Federal legislation directly legalizing resale price fixing by contract. The numerous Congressional hearings on the various bills had resulted in exhaustive examination of the question on its merits, and there was scant, if any, hope that Congress would grant its approval to these restraints on competition. The leaders of the price-fixing lobby then decided that the "back door" approach through the State legislatures offered more hope of success.

In 1931 California had passed a law permitting resale price fixing which was similar in content to the Capper-Kelly proposals. It amended the law in 1933 by adding the "nonsigner's clause." Under this provision, the manufacturer of a branded item could make a contract with a single retailer in that state and the contract would be binding on all other retailers of the product having notice of the contract, even though they were not parties to the contract. Here was a simple mechanism for establishing uniform resale prices over a large area with a minimum of expense.

¹ References appear on page 18.

Moreover, state legislative procedures were often lax, and there was no organized opposition. If (reasoned the price-fixing lobby) a California type of law could be passed in an impressive number of states, then it should be comparatively easy to get Congress to remove the Federal barriers on the ground that the states should be permitted to carry out their own legislative purposes.

Obviously the lobby thought it would be a mistake to permit these laws to be generally known as "price-fixing" or "price-maintenance" measures. NRA had made extensive use of the euphemism "fair competition" in the codes it had promulgated. If new laws could be baptized as "fair-trade" laws, consumer opposition might not be aroused. Moreover, unless state legislators were quite familiar with price fixing by contract, they too might be disarmed or deluded by the name. Public hearings could be avoided. State trade associations could be mobilized to exert pressure for "fair trade" on the ground that it was needed to protect the little merchant from the price competition of larger merchants. Such was the grand strategy of the state campaigns for price-fixing privileges. It was so effective that a number of states soon enacted "fair-trade" laws which copied the California model statute in detail—even to successive repetition of the same errors in punctuation and grammar!

By March 1936 so-called "fair-trade" laws had been enacted by 12 states, and the price-fixing lobby was prepared to begin the effort to remove the Federal barriers. The bills to accomplish this purpose were introduced in the House by Representative John E. Miller of Arkansas and in the Senate by Senator Millard E. Tydings of Maryland. The March 1936 hearings on S. 3822 brought no legislative enactment.

SUPREME COURT UPHELD CONSTITUTIONALITY

In December 1936 the U. S. Supreme Court upheld the constitutionality of the California and Illinois "fair-trade" laws.¹⁰ House and Senate hearings followed early in the next session. Finally the Miller-Tydings Amendment was passed as a rider to the District of Columbia Appropriation Bill, and signed with stated reluctance by President Roosevelt on August 17, 1937.

The state campaigns proceeded with renewed vigor, and by May 1, 1941, forty-five states had enacted "fair-trade" laws. Despite repeated efforts, the lobby has thus far been unsuccessful in securing enactment of "fair-trade" laws in Texas, Missouri, and Vermont. And Congress has several times refused to enact such legislation for the District of Columbia.

The Miller-Tydings Amendment to the Sherman Act and the Federal Trade Commission Act was "sold" to Congress on the theory that it was merely an "enabling measure" which permitted the states to legalize resale price-fixing contracts with immunity from attack under the Federal antitrust laws when interstate commerce was affected. In specifying the conditions of this immunity, Congress did not authorize "fair-trade" statutes that contained a provision binding noncontracting distributors. It was simply assumed by the trade that nonsigners were bound.

But the issue finally came before the U. S. Supreme Court in *Schwegmann v. Calvert Distillers Corp.*¹¹ In May

1951, in that case, the Court ruled that the "nonsigner clause" was invalid where interstate commerce was affected.

Efforts are now being made to amend the Miller-Tydings provision to legalize the use of the nonsigner clause.¹²

Such are the main outlines of the evolution of the legal right to dictate resale prices of branded merchandise after title has passed to the distributor. The alignment of interest in this long and bitter controversy deserves some special comment, because there has never been any public demand for the elimination of price competition among distributors in the sale of branded items. Consumers do not seek laws to raise prices and destroy competition.

WORK OF HIGHLY ORGANIZED LOBBY

The so-called "fair-trade" laws are the work of a highly organized and well-heeled lobby. This lobby is spearheaded by the National Association of Retail Druggists, the National Wholesale Druggists' Association, and certain manufacturers of proprietary drugs, cosmetics, and toilet preparations. Sporadic support has been obtained from a number of retail trade organizations, such as jewelers, grocers, hardware dealers, booksellers, radio dealers, tobacco products dealers, and wine and liquor merchants. But both the Miller-Tydings Amendment and the state "fair-trade" laws are primarily the achievement of the "patent medicine" trade and its affiliated manufacturers.

In the earlier hearings on resale price-fixing legislation, a handful of interested manufacturers were represented by the American Fair Trade League, but in later years this front was disbanded. It was succeeded in 1939 by a new organization known as the American Fair Trade Council. The Council is said to include no representatives of the drug and liquor interests. It has taken an active part in nation-wide efforts to obtain public support for resale price fixing, and in the recent Congressional hearings. Although much of the legal controversy has been concerned with the alleged destruction of the manufacturer's goodwill by retail price cutting, relatively few manufacturers have appeared at the numerous legislative hearings to plead for protection. It is much more effective strategy to have associations of small retail merchants "carry the ball."

The present propaganda mouthpiece for the "fair-trade" lobby of the drug trade is an organization with the misleading name "Bureau of Education on Fair Trade." Its chairman is John W. Dargavel, executive secretary of the National Association of Retail Druggists. Its "steering" committee includes representatives of the National Wholesale Druggists' Association, National Association of Chain Drug Stores, Miles Laboratories, Bristol-Myers Company, Bourjois, Inc., and Eli Lilly & Company. The "Bureau" was organized when the trade began to worry about the attacks on this type of price fixing and possible repeal in some of the states. The "Bureau" does not publish its income and disbursements, but at one time it was seeking \$100,000 to foster its work of "educating" the consuming public. It has spent substantial sums for lobby work, so-called "research," advertising, brochures, pamphlets, and so on. It maintains an office in New York and employs a director. Undoubtedly many uninformed persons have thought that the "Bureau" was some Government agency.

The opposition to resale price fixing is formidable, but it

has never been organized to make full use of its strength. For a number of years the leading trade association opponent was the National Retail Dry Goods Association, which represents the department stores of the country. Owing to some division of opinion among its membership, this organization was not represented at the recent public hearings. Over a long period of years, R. H. Macy & Company has taken an active part in opposing resale price-fixing legislation. It has been represented at each Congressional hearing since 1914. From time to time it has been joined by other independent retailers.

AFL AND CIO IN OPPOSITION

The American Federation of Labor and the Congress of Industrial Organizations have appeared in opposition at the Federal level, but neither organization has been active in opposition to state laws. The American Farm Bureau Federation, the National Grange, and various organized consumer groups have consistently expressed their disapproval of resale price fixing. The Federal Trade Commission has made two exhaustive investigations and condemned resale price fixing in principle and practice. The Department of Justice has officially expressed its disapproval at public hearings and otherwise. Some years ago the Temporary National Economic Committee took the same position and recommended repeal of the Miller-Tydings Amendment. It is also significant that resale price fixing has been almost universally condemned by academic experts in the field of marketing.

The so-called "fair-trade" laws are a classic example of the effectiveness of a well-financed and ably directed minority in securing legislative favors. In 1948 drug and proprietary stores represented only 3.2% of all retail stores and about 3.1% of all retail sales. In 1949 the National Association of Retail Druggists claimed a membership of 31,000 stores, considerably less than the national total. This pressure group has made large use of the plea that the small merchant must be protected from the competition of his larger rivals; and it is not averse to use of thinly veiled threats of political retaliation against legislators who fail to support the legislation it sponsors.

The lobby attitude has been subtly phrased by Herbert Levy, former counsel of the National Association of Retail Druggists, who recently testified as follows:

For 14 years, I was a law partner of ex-Senator Tydings of Maryland, to whom the retail druggists of Maryland gave their wholehearted cooperation and support every time in his long public career that he ran for public office. Senator Tydings believed that the corner drug store was the keystone of the economy, like the old general store with its cracker barrel and stove. Senator Tydings has often said that the fate of the Nation is frequently decided in the corner drug store where they debate all the problems, social, governmental, and economic, and he has often wondered, gentlemen, that more men in public office did not appreciate the value to them of the interest of the professional corner druggist in their campaigns for election.¹⁸

The drug trade lobby is so organized that it can put pressure on members of Congress in their home states and districts as well as in Washington. It uses all the standard procedures for successful lobbying. For instance, it can, at will, flood members of Congress with letters and telegrams

of protest and appeal, send busloads of druggists to the capitols to make personal calls on legislators, supply high school debaters with "materials," provide its legislative friends with questions for the purpose of harrying opposing witnesses at public hearings, and arrange for public lectures on the merits of "fair trade." Its price-fixing purposes are cunningly masked behind the alluring but receptive term "fair trade." It is unfortunately true that there is no comparable organization of consumers or others to counteract these efforts and encourage the timid legislator to take a public stand in protection of the consumer.

FUNDAMENTAL CONFLICT UNDERLIES CONTROVERSY

As one might infer, a fundamental conflict between the two theories of marketing underlies this whole controversy. One theory is that the manufacturer can obtain maximum sales by identifying his product with a brand name, by advertising it extensively, and by buying dealer co-operation through the guaranty of selling margins. The theory has strong appeal for those merchants who wish to avoid the rigors of price competition. In theory at least the "fair trader" regards the fixed resale price as sacrosanct. It hamstring the low-cost competitor and serves as a sort of internal protective tariff. In short, resale price fixing is a "vending machine" concept of the distributor's functions.

The opposing theory is that fixed resale prices cannot possibly produce maximum sales for the manufacturer, because the iron-clad retail price can never capture more than a fraction of the potential market. When prices are free, there is continuous adaptation to market forces. The product naturally finds the most productive price level. When the merchant is free to price his merchandise as his costs and merchandising judgment may dictate, he has opportunity to maximize his gross margins. Such a merchant prefers to sell 150 items at a 19-cent margin rather than 100 items at a 25-cent margin. He does not like inventories with frozen selling prices. Demand for goods may change in short periods; he may overestimate his sales, or he may need cash to meet urgent business needs. With frozen selling prices, he cannot cut prices to clear his stock. Moreover, he knows that, once the brand name is thoroughly entrenched, the manufacturer may decide to reduce the guaranteed margin. He believes that to give up control of selling margins on his own property in return for immunity from price competition is to barter away his birthright for a mess of pottage.

From the standpoint of public policy, the state "fair-trade" laws and the Miller-Tydings Amendment represent a grave abridgement of the state and Federal antitrust laws. They make it possible for the brand owner to destroy all price competition among distributors of his product. He can compel the high-cost and low-cost distributor to sell at the same price without himself investing a single penny in distribution facilities. We know that about one half of the final consumer price for the branded products represents the costs of marketing. In effect, these laws make it possible to destroy distributive competition for one half or more of the final retail price.

We demand competition among manufacturers to protect the public from monopolistic practices and prices, and then condone and encourage monopolistic distribution in

the self-same products. The legal right to eliminate price competition in the wholesaling and retailing of products identified by a brand name or otherwise after title has passed to these distributors is flagrant monopolistic privilege.

NO MECHANISM FOR CHALLENGING FAIRNESS

Prior to these price-fixing laws, it was not considered sound public policy to grant monopolistic privilege, except patents and copyrights, without provision of regulation by public authority. Moreover, copyrights and patents are grants limited in time. We recognize the need for monopoly in the public utility field, but the price and other conditions of service are publicly regulated. In its statutory aspects, our railroad policy requires the maintenance of competition "as nearly as may be," but rate making and nearly all other actions of common carriers are subject to the approval of the Interstate Commerce Commission. Common carriers are also subject to state regulation. Except for the "fair-trade" law of Wisconsin, not a single one of the private price-fixing laws provides any mechanism for challenging the fairness of the fixed prices. If price competition between and among manufacturers is sound public policy, what logical reasons can be advanced for the destruction of price competition between and among distributors of the *same products*?

The inconsistency becomes more glaring as one digs more deeply into the economics of this distribution question. The standard lobby answer to the monopoly charge is that there are dozens of competing brands of household gadgets, hair tonics, toothpastes, laxatives, and so on, and that competition among the various manufacturers adequately protects the public. The question of distribution monopoly is wholly avoided, because the challenge cannot logically be answered. Articles protected by patent and copyright are freely price-fixed, but no public agency is provided to determine when the price-fixed items are truly in "fair and open competition with other articles of the some general class."

The state "fair-trade" laws and the Miller-Tydings Amendment contain a provision that there can be no agreement concerning resale prices among manufacturers, among wholesalers, and among retailers. If retailers or wholesalers acted in concert to fix and maintain the resale price of a particular item, they would be in violation of the antitrust laws. But, if exactly the same result is obtained by a system of resale price contracts satisfactory to the vast majority of distributors, the full majesty of the law can be marshaled to enforce the contracts! Obviously, no manufacturer will establish uniform resale prices unless they are acceptable to distributors. Moreover, there is abundant indication that dealer groups exert pressure on manufacturers to fix prices that provide what the trade considers a proper guaranteed margin.¹⁴

Under the Robinson-Patman Act, a manufacturer may not discriminate in prices to his customers unless the discrimination makes "only due allowance for the differences in cost of manufacture, sale, or delivery resulting from the differing methods or quantities in which such commodities are to such purchasers sold or delivered." Nothing in the law is to prevent "price changes from time to time where

in response to changing conditions affecting the market for or the marketability of the goods concerned." A distributor may buy in large quantities and earn a lawful price differential, but, if the article is "fair-traded," he cannot pass on any of the savings to his customer. If he buys "off season" at a lower price, the "fair-trade" price may debar any sharing of the lower costs savings. Merchants who bought Army surpluses in "fair-traded" items at extremely low costs have actually been required to sell at the regular fixed resale prices.

Before the Schwegmann decision, the manufacturer of a branded item could make 45 resale price-fixing contracts (one each in 45 price-fixed states) and legally destroy all price competition in the sale of his product by distributors. Without any investment in distribution facilities, he could freeze the distribution price structure for his product. Though the Schwegmann decision outlawed the nonsigner clause where interstate commerce was affected, there is a possibility that uniform resale prices can still be maintained by systems of written contracts, although the procedure would be more cumbersome.

POWER OF THE ADVERTISED BRAND

It is often argued that monopolistic control of resale prices is not particularly serious, because the merchant always has recourse to private and price-free brands of competing articles. To some extent, larger distributors can offer price competition with private brands, but the power of the advertised brand is often so great that the merchant must still stock the price-fixed brand or lose trade to his competitors. No one could carry on a retail or wholesale drug business today without stocking hundreds of price-fixed items. There is no private brand for a copyrighted article nor for many patented articles. From the standpoint of public policy the private brand is not the practical answer to distribution monopoly by means of fixed resale prices for branded items.

No one knows precisely the proportion of the retail trade in price-fixed items. It has been conservatively estimated that at least 10% of the dollar volume of all retail trade is in "fair-traded" merchandise.¹⁵ For some branches of the retail trade the percentage is much higher. During the past fifteen years the volume of price-fixed sales has been growing. If the movement is not stopped, a much higher percentage of all retail trade will be in price-fixed merchandise. Some years ago it was estimated that as much as 30% of the retail trade of Great Britain represented sales at fixed resale prices. Farsighted retailers in the United States are deeply disturbed about the current trend.

COMPELLED TO PAY A SUBSIDY

It is ridiculous that public policy toward the use of monopolistic pricing practices in distribution should be shaped by a pitifully small but powerful minority of retail traders. No two distributors have the same costs, and there is no sound reason why they should be compelled to sell the same article at the same price, nor permitted to enter into contracts with manufacturers to achieve the same purpose. The consumer should not be compelled to pay a subsidy to maintain a guaranty of distributive margins on any type of merchandise. Progress toward lower cost and

more efficient types of distribution will be inhibited as long as we permit the resale price-fixing privilege to continue. As the Federal Trade Commission has said:

The Tydings-Miller amendment legalizes contracts whose object is to require all dealers to sell at not less than the resale price stipulated by contract without reference to their individual selling costs or selling policies. The Commission believes that the consumer is not only entitled to competition between rival products but to competition between dealers handling the same branded product.¹⁶

It would unduly prolong this discussion to attempt any detailed analysis of the various devices used by the price-fixing lobby to obscure the real issues in this price-fixing controversy, but perhaps a few brief comments will be of interest. The lobby claims that the use of "loss leaders" is destroying the little merchant. Resale price fixing is said to be needed to stop the sale of branded items at a loss to attract trade. If this is the real purpose of the so-called "fair-trade" laws, the obvious remedy is legislation to stop the use of "loss leaders," provided the alleged evil warrants any legislative treatment. But the lobby is not interested in any such remedy because its sole aim is guaranteed selling margins. There is abundant evidence that small merchants fail because of incompetence, inadequate capital, and similar causes *not* associated with competition as such. The "loss leader" argument is used as a smoke screen to hide the real purpose of resale price fixing.

CONSUMER HAS TO PAY MORE

Another argument is that the "fair-trade" laws have not raised prices and should therefore be continued. The truth is that in populous centers, where vigorous retail competition formerly prevailed on prices of articles now price-fixed, the consumer has had to pay substantially more. The extra "take" is not precisely known, but it is said to amount to at least \$2 billion annually. It would appear that, if these laws have not in fact raised prices, they have not really served their purpose and therefore ought to be repealed. The lobby takes the strange position that it campaigns for price-fixing privileges to keep prices down for the benefit of the consumer! Obviously, the sole purpose of all price fixing is make prices higher than they would be if competition were really free.

The "goodwill" argument is not now used as much as it used to be. This is the contention that, when the price of an advertised brand is cut in price competition among retailers, the brand loses prestige, and the product is driven from the market. More than a generation of experience has failed to produce any sizable or dependable evidence that a meritorious article has ever been driven from the market or even seriously injured by retail price cutting *per se*. Many of our most successful brands, on the other hand, have grown and prospered under lively retail price competition.

The U. S. Court of Appeals in a recent case gave this particular argument the coup de grace when it said:

The consequences of accepting the argument almost take one's breath away. It is perfectly true that a trade mark is entitled to protection. Nor does it require any fair trade act to give such protection. . . .

A patentee is given a monopoly by legal grant. But even a

patentee, who can exclude everyone else from making his patented article, cannot control the prices at which others may sell his articles to consumers. The protection given to the owner of a trade mark certainly should not be greater than that given to the holder of a legal monopoly, the patentee.¹⁷

And the lobby has carefully skated around the question of enforcement of the fixed prices. It often cites the suggested retail prices of automobiles as an outstanding example of the benefits of price fixing, but utterly ignores the fact that the "trade-in" allowance and other devices give wide flexibility to the retail prices of automobiles. It is not too much concerned about the failure of so-called "discount houses" to observe fixed prices and the apparent inability of manufacturers to police their price-fixing contracts. In increasing degree, the law-abiding merchant finds that his trade in many price-fixed items slips away to less scrupulous merchants who violate the fixed prices with comparative impunity. After all, we cannot expect too much logic from a lobby which persistently argues that the shining example of the virtues of price fixing is the U. S. Post Office, a Government monopoly that sells postage stamps at the same price to all customers wherever located!

CONCLUSION

In conclusion, it may be well to note that Canada, after thorough investigation, has recently prohibited resale price fixing. In Great Britain, where the system has been long entrenched, it is now undergoing critical re-examination. The recent British White Paper made these general comments:

Price competition is, in our view, an important factor in the growth of that efficiency and economy in the distributive trades to which our terms of reference draw specific attention. . . .

. . . We have already noted that the development of distribution methods is a dynamic process in which old barriers are constantly being removed and new techniques introduced. These dynamic tendencies are, we believe, still present in our economy, and there is no reason to suppose that there is not still room for further improvement in the distributive system.

In our view, therefore, it is essential, if the efficiency of distribution as a whole is to be open to continuous improvement, that positive steps should be taken to create and maintain conditions in which newcomers are free to enter the field, enterprising traders to introduce new methods and lower cost, or more efficient distributors (whoever they may be) given opportunity to offer the public the advantages of reduced prices or improved methods.¹⁸

Except for the Miller-Tydings aberration, that is our own national public policy.¹⁹

Whether the Congress will amend the Miller-Tydings provision to include specific authorization for contracts binding nonsigners remains to be determined. The price-fixing lobby is sparing no effort to secure this result, and it is gambling heavily on its power in an election year.

REFERENCES

- ¹ *Bobbs-Merrill v. Straus*, 210 U. S. 339.
- ² *Bement v. National Harrow Co.*, 186 U. S. 70.
- ³ *U. S. v. General Electric Co. et al.*, 272 U. S. 476.
- ⁴ *Dr. Miles Medical Co. v. John D. Park & Sons Co.*, 220 U. S. 373.
- ⁵ *United States v. Colgate*, 250 U. S. 301.

⁶ *Federal Trade Commission v. Beech-Nut Packing Co.*, 257 U. S. 441.

⁷ For a summary account of these efforts, see Report of the Federal Trade Commission on Resale Price Maintenance, 1945, p. 39 ff.

⁸ Cf. Herbert F. Taggart, Minimum Prices under NRA, *Michigan Business Studies* Vol. VII, No. 3, University of Michigan, Ann Arbor, 1936. Also the writer's testimony on Extension of the National Industrial Recovery Act, Hearings before the House Committee on Ways and Means, 74th Cong., 1st Sess., pp. 462-499.

⁹ *Schechter Poultry Corp. v. U. S.*, 295 U. S. 495.

¹⁰ *Old Dearborn Distributing Co. v. Seagram Distillers Corp.*, *Carl W. McNeil v. Joseph Triner Corp.*, 299 U. S. 183. *The Pep Boys v. Pyroil Sales Co.* and *Kunsman v. Max Factor* were decided on the authority of the Dearborn case. These cases involved the "due process" clause only, not the commerce clause or the problem of conflict with the Sherman Act.

¹¹ *Schwegmann v. Calvert Distillers Corp.*, 341 U. S. 384.

¹² Cf. Hearings House Subcommittee of the Committee on

Interstate and Foreign Commerce on H.R. 5767, 82d Cong. 2d Sess.; Hearings House Subcommittee of the Committee on the Judiciary on H.R. 4365, H.R. 4662, H.R. 4592, and H.R. 6367 (H.R. 6925), 82d Cong. 2d Sess. (Study of Monopoly Power, Serial 12.)

¹³ Hearings House Subcommittee of the Committee on Interstate and Foreign Commerce, *op. cit.*, p. 173.

¹⁴ Federal Trade Commission Report on Resale Price Maintenance, 1945, p. xxxii.

¹⁵ Cf. Hearings House Subcommittee of the Judiciary Committee on Resale Price Maintenance, *op. cit.*, p. 382.

¹⁶ Federal Trade Commission, *op. cit.*, p. lxiv.

¹⁷ *Sunbeam Corp. v. Wentling*, 192 F (2d) 7 (CA 3d, 1951), pp. 8-9.

¹⁸ *Report of the Committee on Resale Price Maintenance*, Board of Trade, London, June 1949, Cmd. 7696, p. 18.

¹⁹ A limited number of copies of the pamphlet *Don't Fence Us In* which contains the writer's recent statement before the House Judiciary Subcommittee on this question are available without charge on written request.

* * *

On June 21, 1780 . . . "a number of patriotic citizens of Pennsylvania have communicated to Congress a liberal offer, on their own credit, and by their own exertions, to supply and transport 3,000,000 rations, and 300 hogsheads of rum, for the use of the Army, and have established a bank for the sole purpose of containing and transporting the said supplies with the greater facility and dispatch.

Paine's Dissertations of Government, 1786

Bank of North America . . . "The first organized bank in the United States and 'the first one which had any direct relation to the Government of the United States,' commenced operations on January 7, 1782." It had its origin as a banking company without charter, in a meeting of citizens of Philadelphia on June 17, 1780 . . . it was resolved to open a "security subscription to the amount of three hundred thousand pounds, Pennsylvania currency, in real money."

Comptroller of the Currency

1791 . . . Coal companies and coal speculation near Philadelphia . . . "of the scores of companies which thus sprang up, few ever accomplished their aim."

Importance of the Railroad Accounting Officer to the Financial Analyst

PIERRE R. BRETEY

TO THE ANALYST OF RAILROAD SECURITIES there is always the problem of selecting, from the plethora of railroad statistics, the significant data, so that recommendations may be made. Even under conditions of relative normalcy, such as those of the '20's and '30's, selecting the proper railroad securities has proven difficult. In the late '20's many common stocks, later wiped out in section 77 reorganizations, sold well above equities, which subsequently withstood both a major depression, and a major war and emerged from these periods with well-merited investment characteristics. For instance, such common stocks as Baltimore & Ohio sold at 145 $\frac{1}{8}$ in 1929, Rock Island at 143 $\frac{1}{2}$, Frisco at 133 $\frac{3}{4}$, New Haven at 132 $\frac{1}{2}$, Monon at 120, Northwestern at 108 $\frac{1}{2}$, Missouri Pacific at 101 $\frac{3}{8}$, and Erie at 93 $\frac{1}{2}$. All but Baltimore & Ohio and Erie were wiped out completely in subsequent reorganization proceedings. Compare these 1929 quotations with Chesapeake & Ohio, which sold at 69 $\frac{7}{8}$, Louisville & Nashville at 77 $\frac{3}{8}$, Virginian at 42 $\frac{1}{4}$, Norfolk & Western at 72 $\frac{1}{4}$, or with Union Pacific at 148 $\frac{3}{4}$, and Santa Fe at 149 $\frac{3}{8}$. Prices in each instance have been adjusted for subsequent stock splits.

SENIOR OBLIGATIONS

A similar comparison could be made with respect to many senior obligations. Norfolk & Western first consolidated 4's, today's premier mortgage system obligation, brought 92 $\frac{3}{4}$ in 1929, a price lower than numerous other system liens which subsequently were scaled down drastically in section 77 reorganizations. Likewise, such prime institutional media as Chesapeake & Ohio first 5's (104), Union Pacific Land Grant 4's (85 $\frac{1}{4}$), and Santa Fe general 4's (95) all sold below obligations of roads that were fundamentally weaker and were destined for reorganization within the ensuing decade. Such latter issues included Rock Island refunding 4's, which sold at 95 $\frac{7}{8}$ in 1929, Frisco prior lien 4's, at 96 $\frac{1}{4}$, New Haven refunding 4 $\frac{1}{2}$'s at 97 $\frac{3}{4}$, Northwestern general 4 $\frac{3}{4}$'s, at 105, and Missouri Pacific junior 5 $\frac{1}{2}$'s at 125 $\frac{1}{2}$.

LACKED FORESIGHT IN EVALUATING

It is evident that, in a time of relative normalcy, most of the analysts concerned lacked foresight in evaluating railroad securities. What of a period such as that we have gone through since V-J Day? Not since the loss of its monopoly position had the railroad industry suffered to the degree that it has in the past several years, from subsidized competition, particularly at the hands of the contract carriers, which are probably depriving the railroad industry of some \$1.5 billion of high-rated freight revenues. Moreover airplane competition has made sharp in-

roads on passenger volume, including some of the crack streamliners which to date have been uniformly highly profitable. And, to add to the misery of financial officers of railroads, during this period of unfair, subsidized and, in some instances, unregulated competition, the carriers have suffered from inflationary developments of large magnitude, and from a lag in permissible adjustment of rates to higher material and wage costs. The experience of the industry in 1946 is an extreme one, but nonetheless it is illustrative of the lag in such adjustments. Then the industry was faced with a wage increase retroactive to January 1, other than an entirely inadequate increase authorized in July.

RAPID RISE IN COSTS

A third major factor, a highly complex one, has served to confound both analysts and financial officers in this post-war period. Roads operating in areas of population density, with heavy branch mileage, with substantial non-profitable passenger volume, and, above all, with heavy terminal and classification yard expenses, have suffered inordinately from a singularly rapid rise in costs.

DECENTRALIZATION OF INDUSTRY

These problems were accentuated by a major trend toward decentralization of industry, partially brought about by the basing point decision, so that railroads located in the South, Southwest, and Far West benefited at the expense of railroads located in the former heart of industrial America, north of the Ohio and east of the Mississippi. This transportation revolution, as I choose to call it, reversed the status of the so-called bridge line. For the bridge line has no branch mileage of consequence, no heavy passenger business with its unprofitable head-end volume, no heavy terminal or classification yard expenses, no commutation business or lighterage costs. In fact, many bridge line railroads have been able to function at reduced costs by doubling tonnages per train and in many instances eliminating helper service, because of the superior performance of the Diesel locomotive. They have also benefited, whether by accident or design, by the ICC's use of its control of freight rates to maintain relative solvency of other carriers, handicapped as many have been, and still are, by the non-profitable services previously mentioned. Bridge lines have, therefore, actually become beneficiaries of inflationary developments of the past several years, and their earnings have reached highest levels in history, this at a time when very low earnings have been the lot of the eastern carriers. Therefore, it should not be surprising to learn that security analysts in the railroad field have been pointing out to investors that bridge line securities, compared with other

groups, today occupy a position of investment superiority.

Another development of significance, although perhaps not of such fundamental importance as those already mentioned, is the recent examiner's decision in the divisions case, whereby some \$60 million of gross revenues may well be transferred from the southern and southwestern to the eastern carriers.

This background emphasizes not only the complexities facing the railroad analyst but also those facing the railroad industry as a whole. Let us now consider those problems more closely associated with railroad accounting. At the

outset I think we would all agree that the accounting officer is essentially the custodian of net income, so to speak. His is the primary task of developing operating budgetary controls so flexible as to correlate expenditures with a variable cash inflow, thus minimizing extremes of variations in net income. Likewise his is the task of developing a capital budget, again adjusted to the varying tempo of cash inflow and cash outgo.

Equally significant, the accounting officer can be of invaluable aid to the traffic department by providing comparative statistics of relative monthly change in traffic flow.

Atchison, Topeka & Santa Fe Railway

Operating Expenses

Passenger 52,578 = 9.21%

\$426,290,000	Gross revenues	\$570,582,000
2,658,000	Operating ratio	74.71%
33,658,000	Rental debits	0.47%
36,362,000	Fixed taxes	5.90%
	Federal income taxes	6.37%

NROI	\$71,613,000
Other income	10,717,000
Total income	\$82,330,000
Miscellaneous deductions	832,000
Bal. available for fixed chgs.	\$81,498,000
Less fixed & contingent	8,152,000
Net income before S. Fd., etc.	\$73,346,000
Sinking funds	
Capital funds	

* * *

Fixed charges	\$ 6,187,000
Contingent charges	1,965,000
Fixed & contingent	\$ 8,152,000
Pfd. divd. requirement	6,209,000
Chgs. ahead of common	\$14,361,000

Fixed chg. coverage	13.17x
Fixed & cont. chg. coverage	10.0x
Over-all coverage through prf. div.	5.67x

% of Gross

To NROI before FIT	18.92
Absorbed by fixed chgs.	1.08
Absorbed by cont. chgs.	0.34
Absorbed by FIT	6.37
Carried through after FIT	12.55
Absorbed by pfd. divd.	1.09
Bal. avail. for common	11.77

Earned per share \$29.53
(2,483,456 shs. \$50 par)
Earned per common sh. \$13.83
(4,854,120 shares)

* * *

Working capital	\$121,533,000
No. yrs. fixed chg. req.	19.64 years
To gross	21.30%

% of Gross

Maint. of way	\$ 92,821,000	16.27
Maint. of equipt.	106,095,000	18.59
Combined	\$198,916,000	34.86
Transportation	189,972,000	33.29

Depreciation		
1951	1950	
Way	\$ 7,097,000	\$ 6,837,000
Equipt.	18,026,000	16,354,000
Combined	\$25,123,000	\$23,191,000

Combined as % of gross	4.40
Combined as % of fix. chgs.	406.06

Gross Additions & Betterments

	1951	1950
Road	\$18,821,000	\$14,552,000
Equipment	60,884,000	42,139,000
	\$79,705,000	\$56,691,000

By supplying detailed monthly figures, the traffic department is warned, before it is too late, of possible losses of important revenue items. Consequently, adjustments in rates, or service function, or both can be made to regain the traffic before it is permanently lost to competing forms of transportation. For one leading railroad, such statistical comparisons enabled retention of a large volume of high-rated steel products which otherwise would have been irrevocably lost to truckers.

Similar statistical comparisons can serve to help the operating departments and draw attention to cost distortions. At a time when wages have reached historically high levels, such cost controls are absolutely essential if the accounting officer is to be qualified to attain a net figure of consequence.

EQUALIZATION FUND

One procedure that particularly minimizes extreme fluctuations of monthly net earnings and for that reason is favored by virtually all railroad analysts is the establishment of an equalization fund. Through use of such a fund, maintenance expenditures made during the spring and summer, which usually mark a seasonal peak, can be charged directly against it, thus ironing out what otherwise might be pronounced seasonal trends. However a word of warning must be given in the employment of such a fund. If an equalization fund is set up, it must be used consistently, not arbitrarily, and, whenever any changed accounting procedures are subsequently made, they should be announced publicly. Otherwise public confidence will be irrevocably harmed.

Another procedure most railroad analysts would overwhelmingly approve, would be greater publicity arising from abnormal factors affecting monthly earnings. Whenever an abnormal decline in either revenues or net income is occasioned by strikes or floods or unusual snow or cold weather conditions, an explanation should accompany publication of monthly results. Such explanations should be repeated twelve months later to clarify what otherwise might be construed as glaring differences. In like measure, whenever a railroad benefits from windfall earnings such as retroactive mail pay, or tax refunds, similar explanations should be forthcoming and repeated twelve months later.

Still another procedure adopted by some railroads that has greatly impressed many railroad security analysts is weekly budgetary controls. Establishment of these controls necessitates greater co-operation with top management, and they require large accounting staffs and consequently are very costly. Yet many analysts attribute the relatively more stable earnings results of both the Illinois Central and the Burlington railroads to the establishment of such controls.

Likewise, since the Baltimore and Ohio has instituted stricter budgetary controls in recent years, this railroad has enjoyed selective gains in operating efficiency, which, rightly or wrongly, are attributed by railroad analysts to these closer controls.

Contacts with top managements convince me that too few railroad presidents have adequate comprehension of the part the accounting officer could play in setting up budgetary and cost controls, thus making it possible for

much larger net income to be shown by the Class-I carriers. All too frequently top management, not being skilled accountants, are unaware of the potentialities of finding the equivalent of oil or uranium in the proper interpretation of the statistical material unearthed for them by accountants and their staffs. This is indeed regrettable in the face of the ever-increasing complexity of problems faced by the railroads, and especially as the present-day accounting officer is doing a far better job than his predecessor, now that mechanized equipment enables the compilation of voluminous statistical data in a matter of days, rather than weeks as was the case many years ago.

ACCOUNTING OFFICER IMPORTANT

The accounting officer of today, playing such an important part in the development of net income, should regain his position of previous authority. He should take on himself the responsibility of selling top management on the ability of the accountant to be the greatest force in the correlation of all railroad functions to the end that such correlation be reflected in increasing net income. This is not idle talk. I know of several railroads whose net earnings have increased spectacularly because top management gave the accounting officer increased responsibility and the subsequent controls instituted made possible extraordinary improvements.

Up to this point I have emphasized the complexities facing the railroad analyst in evaluating the worth of railroad securities, as well as those facing the custodians of net income. Now I shall attempt to explain what the financial analyst does with the voluminous statistics pouring over his desk. His function, I repeat, is the task of interpreting railroad statistics to the end that investment funds be channeled into the most promising railroad securities. In many instances the types of figures the analyst watches from the outside are different from those closely followed on the inside by railroad managements, which latter group are usually more interested in operating than in financial results. Accordingly, the analyst must devise a form to include the most significant data which supplements his cumulative knowledge derived over the years through either an inspection of individual properties or frequent interviews with management or both.

The most useful form is relatively simple. The statistics are derived primarily from the Income Account, although some are obtained from the balance sheet, and still others are ratios computed from the data. These forms are important to us not only because of the significant financial operating data tabulated, but also because they permit comparisons with other Class-I railroads. From them we ascertain the over-all coverage of the company's fixed charges, and, if any, income bonds and/or preferred stock are outstanding, then the over-all coverage through income bond interest or through over-all charges and preferred dividend requirements. The all-important per common share earnings results are also derived from the data.

Operating efficiency is indicated by computing both operating and transportation ratios. To find whether there are distortions in these ratios arising from possible abnormal maintenance expenditures, maintenance costs are broken down, as between maintenance of way and main-

tenance of equipment. Frequently such a statistic provides an important clue to the trend of net earnings over the relatively shorter term.

An alternate measurements of operating efficiency is the computation of the per cent of gross revenues carried through to net railway operating income before Federal income taxes, better known as gross profit margin. This is an all-important ratio furnishing a relative clue as to which of our Class-I carriers are most efficiently operated.

Of most equal significance is the per cent of gross revenue carried through to net railway operating income after Federal income taxes, which provides a gage of net profit margins.

Another ratio of importance to the equity holder—the forgotten man in today's social equation—is the per cent of gross revenue available for the common. This latter figure is somewhat distorted when other income is a major supplementary earnings factor—the larger the relative total of other income, the greater the distortion.

Taxes now loom large in railroad accounts. Whereas a decade ago taxes absorbed less than 8.5% of gross, in recent years this percentage has risen to between 12 and 15%. The investor, therefore, wishes to know the per cent of gross absorbed by both fixed taxes (primarily fixed property taxed by city and state authorities) and by Federal income taxes.

Likewise the investor has a vital interest in relative equipment rental and/or joint facility rental positions of the individual railroad. In all too many cases, large equipment rental debits point to the need of large capital expenditures for new freight-car equipment. Similarly large joint facility rental debits disclose a fundamental weakness in the road's financial armor, one which, unlike equipment rental debits, cannot be overcome through managerial efforts. Joint facility contracts, once made, are virtually inviolate and cannot be altered, except in rare instances, even as a part of a reorganization procedure.

Other ratios of importance to the investor are (1) the per cent of gross absorbed by fixed charges, and by contingent charges and/or by preferred stock requirements whenever such securities are outstanding, (2) the relationship of current assets to fixed charges, and (3) the relationship of equipment depreciation to equipment maturities. Cash inflow from depreciation, if markedly greater than equipment maturities, has frequently helped more than one railroad over a financial crisis.

Still another factor the investor cannot overlook is the amount of gross capital expenditures made over a period of years. These are of great significance to him since the cumulative benefits of such expenditures are, in almost every instance, translated into improved operating performances.

These then are the significant financial and operating ratios the financial analyst relies on in evaluating railroad securities. By having such data for a period of years always before him, he is in a position to appraise each security intelligently as it is brought to him for consideration, supplementing the bald statistics with his evaluation of management ability and with whatever additional tangible data he has accumulated over the years.

NOVEMBER 1952

Standard Steel Spring Company

MAIN OFFICE: CORAOPOLIS, PA.

ready to serve you...

DIVISIONS

BUMPERS

STANDARD STEEL SPRING CO.

Coraopolis, Pa.

Newton Falls, Ohio

UNIVERSAL JOINTS

BLOOD BROS. DIVISION

Allegan, Mich.

COIL, PRECISION AND MECHANICAL SPRINGS

MUEHLHAUSEN SPRING DIV.

Logansport, Ind.

GHELSEA SPRING DIV.

Chelsea, Mich.

OPEN STEEL FLOOR GRATING

STANDARD STEEL SPRING CO.

Gary, Ind.

CORRUGATING

STANDARD STEEL SPRING CO.

Coraopolis, Pa.

ARMOR PLATE

ARMOR PLATE DIV.

Detroit, Mich.

SEAT CUSHIONS, BACK SPRINGS

FALLS SPRING AND WIRE DIV.

Detroit, Mich.

GREAT LAKES SPRING DIV.

Chicago, Ill.

STANDARD STEEL SPRING CO.

Los Angeles, Calif.

Trenton, N. J.

FLAT LEAF SPRINGS

STANDARD STEEL SPRING CO.

Gary, Ind.

New Castle, Pa.

TUBULAR SEAT FRAMES

FALLS SPRING AND WIRE DIV.

Detroit, Mich.

GREAT LAKES SPRING DIV.

Chicago, Ill.

TUBULAR PRODUCTS

FALLS SPRING AND WIRE DIV.

Detroit, Mich.

PLANTS Allegan, Mich.; Gary, Ind.; Chelsea, Mich.;

Chicago, Ill.; Logansport, Ind.;

Coraopolis, Pa.; Newton Falls, Ohio; Detroit, Mich.;

New Castle, Pa.; Los Angeles, Calif.; Trenton, N. J.

DISTRICT OFFICES

1600 Fisher Bldg, Detroit, Mich.

7035 West 65th St., Chicago, Ill.

RESEARCH LABORATORY

Coraopolis, Pa.



FERRO CORPORATION

4150 EAST 56TH STREET

CLEVELAND 5, OHIO

This ad appears in the '53 edition of "Career", which has wide circulation among colleges and universities. ("Career" is made up almost entirely of company presentations to solicit new, potential executive personnel.)

A Message to Graduate Engineers in Ceramics, Chemistry, Metallurgy, Mechanics and Electricity:

Progressive young engineers and technologists interested in starting their careers with a progressive and diversified young company, will find ample opportunity for rapid advancement with the Ferro Corporation. We are a young company of 34 years, but in this time we have become a recognized leader in the field of porcelain enamel manufacturing. Proof of our diversification is in our 14 divisions and domestic subsidiaries, our 10 foreign subsidiaries and affiliates, which last year produced 40 million dollars' worth of products ranging from fiber glass and plastic colors to electrical heating elements and switches.

Nearly every top position of responsibility in Ferro Corporation is filled and will continue to be filled only by young technical and engineering-trained men who have proved their capability in one of our many operations.

Training

To augment your general engineering knowledge and point it to specific Ferro products and operations, a 6-month training course is conducted by our Central Research Division. Here you will work on actual manufacturing and research problems and get a first-hand picture of our diversified operations before assignment to your particular division. You can appreciate how your future as an executive or department head would require a general understanding of all Ferro operations.

Diversification

Besides our Central Research Laboratory, our operations include two complete and separate engineering departments handling porcelain enamel engineering and general ceramic engineering; twelve separately equipped laboratories guiding the production of these products; ceramic glazes, colorants for the enameling, ceramic and plastics industries; electrical oven and surface units for ranges; electrical industrial heating elements, switches and controls;

fungicides; plastic stabilizers; paint driers; powdered metal machine parts; fiber glass-reinforced plastics; high-temperature resistant porcelain enamels; essential trace elements for plant growth; titanium metal; and many others.

Employee Benefits

All employees can share in such benefits as social and recreational activities, group life and hospitalization insurance, a retirement plan, and annual vacations of two weeks with full pay after your first year with us.

The men and women making up Ferro Corporation are directly responsible for our steady growth and increasingly important place in American industry. This is due largely to the co-operative spirit of team play that exists throughout our organization. In more than 16 years we have never had a labor strike in any of our plants or subsidiaries to spoil this record.

Your Earning Power

How far you go at Ferro—depends mostly on you. We are always looking for that young man who combines ambition with intelligence, hard work, imagination, and friendly co-operation. Naturally, the more of these qualities you possess, the greater your potential earning power. Only you can determine what it will be.

Somewhere in our organization we hope you will find a suitable spot to grow and prosper with us. A glance at the chart will show you our progress in the last ten years. We offer you the opportunity to share with us in the even more productive years to come.

If you are interested in learning more about the Ferro Corporation and your opportunity for a successful career with us, I invite you to write me direct.

Sincerely yours,

Vice President
in Charge of Research

FERRO
SALES



Some Factors Affecting the Prospects of Foreign Investment

SOLOMON FABRICANT

WHEN NATHANIEL T. BACON ESTIMATED the total of foreign investments by Americans toward the close of the 19th century, it was merely to supplement another calculation. Bacon's paper in the *Yale Review* of November 1900 was on the obviously much more important question of "American International Indebtedness"; what foreigners owed America was only a fraction of what we owed them.

Today the proportions are reversed. The United States is the leading creditor nation of the world. When people discuss our international credit position, their attention is centered on what we invest abroad, rather than on what foreigners invest here.

Many people are discussing this matter: foreigners, because the United States is now virtually the only source of capital to which other nations may look to supplement their own savings; our own citizens, because they feel that substantial foreign investment by us is essential to the maintenance of full employment and peace.

A basic problem of the day, then, deals with the prospects of expanding foreign investment by the United States. To some the answer is simple and clear. To others, however, it seems that too many imponderable factors need to be weighed before a serious judgment on the future of foreign investments can be reached. The truth is in between. Though difficult, the task is not wholly impossible; we do not approach it completely helplessly. If we are careful in our analysis and do not jump too quickly to conclusions, there are many things we can know and use with fair—never, of course, perfect—confidence. This can be illustrated by discussing a few significant factors. Let us list them, to start with, in the form of questions:

1. Is there a long-term tendency toward increase in the proportion of our savings that is invested abroad?
2. How does the severe wave of defaults on foreign investments during the 1930's affect current prospects for investment?
3. How shall we evaluate the great backlog that World War II and the postwar years seem to have built up in foreigners' "requirements" for American capital?

The prospects of capital exports by the United States must be brighter if there is an underlying upward trend in our foreign investments than if their history is simply a series of spectacular and disconnected episodes. What is the evidence that such a trend exists?

From the very beginning of the Industrial Revolution economists have observed, or thought they observed, typical patterns which advancing nations follow in the course of their economic development. One of the dominant trends they listed was gradual exhaustion of domestic in-

vestment opportunities relative to domestic savings, and therefore increasing diversion of capital to foreign outlets. Thus, William Playfair wrote in 1805 of a tendency for a developing country to turn from borrower into creditor nation. (Like other members of the classical school of economists he foresaw a time when investment opportunities throughout the world would have petered out and there could no longer be international borrowing or lending, but we need not worry about that eventuality!)

SIX STAGES OF GROWTH

And in 1950 Charles P. Kindleberger wrote (with rather more sophistication) of the six stages of growth through which nations pass: from young, then adult, then mature debtor status, into young, then adult, and finally mature creditor status. If these speculations are sound—and the fragmentary history of a few countries seems, in some degree, to bear them out—they suggest that underlying long-run factors are indeed pushing American investment more and more in the direction of the outside world and may be expected to continue their pressure in the future.

Existence of such a tendency has been argued also on somewhat different, though related, grounds with respect to the recent past and long-run future. These are the causes of actual or prospective decline in domestic investment outlets discussed by the "stagnation" school of economists. They have mentioned, among other things, the lessening rate of increase of our population, the vanishing of land available for development as the frontier went into oblivion, and the shifting emphasis of technology from capital-demanding to capital-saving inventions. The gradual depletion of domestic subsoil resources, like iron ore, and the need to develop foreign supplies have been mentioned in the recent report of the President's Materials Policy Commission.

With the merits of the new Keynesian maturity theory or the old classical maturity theory uncertain—and readers hardly need to be reminded that much has been said against as well as for them—we cannot depend on them alone. Let us look directly at the facts themselves. Do they suggest that in the past, at least, there has been an upward trend in the proportion of domestic savings sent abroad?

At first glance it is the two World Wars and the great wave of the 1920's that dominate the history of our capital exports. Yet these are by no means all that the record reveals to the careful reader. Underlying them we may in fact discern something like a rising trend in our investments in other countries. Consider the half-billion dollars of American long-term investments abroad that Bacon estimated for 1898, and contrast it with earlier and later figures. In her pioneering work on *America's Stake in Inter-*

national Investments (Brookings, 1938), Cleona Lewis estimated that, for the period immediately following the Civil War, foreigners owed us only about \$75 million, and, for the period just preceding World War I, we have Paul Dicken's estimate of \$2.3 billion, in an important (but unfortunately unpublished) dissertation on *The Transition Period in American International Financing* (George Washington University, 1933).

This comparison shows clearly how rapidly our foreign investments grew after the Civil War. Even more important, these investments rose substantially faster than the total wealth of the United States. The supply of capital for investment abroad was increasing relative to the total supply—the fraction of our savings directed to foreign parts was rising—and this was occurring well before World War I came to give us a sudden and sharp push along the same road. In short, we discern before 1914 a trend towards relative improvement in opportunities for investment outside of the United States compared with opportunities within the United States, and what happened after 1914 is consistent with the continuation of this movement.

The preceding evidence is supported by certain indications on the side of investments by foreigners in the United States. The import of capital was at high tide during the period between the Civil War and World War I, and the aggregate due foreigners did not reach its peak until toward the end of the period. Yet, though it rose, this debt rose at a declining rate. Further, it rose less rapidly than Europe's investments in other countries: A larger and larger fraction of the flow of capital from Europe was to areas outside the United States; a smaller and smaller fraction was finding its way here.

As a consequence of these trends in our foreign assets and liabilities, the net international indebtedness of the United States reached its peak sometime before the turn of the century (the figures are not exact enough to identify the period with precision). World War I hastened the transition of the United States from debtor to creditor nation, but that process was already in evidence well before 1914.

Having raised some doubts about the theories proffered by economists of the classical school of a hundred and fifty years ago and the stagnationist school of yesterday (and today?), it is hazardous to assume that this trend reflects underlying forces that may be expected to persist into the future. Yet the *past* trend is there. It would be more hazardous to ignore the possibility that there is still with us a tendency for the fraction of savings sent abroad to increase than to accept it as moderately probable.

How strong this tendency may be supposed to be is a more delicate problem, which I shall not attempt to grapple with here. And another limitation on what we have learned must be mentioned. Whatever the validity of projecting *trends*, the situation in a particular portion of the future will be influenced as well—and the shorter the period the more it will be influenced—by the relative position of that period in the cycle of prosperity and depression. This means that something must be said also about cycles—at least major cycles—in foreign investment, and this we cannot shirk.

We have mentioned the great flood of foreign investment that issued from the United States in the 1920's and came to a virtual halt during the great depression of the 1930's. This great flow and ebb is of significance in two ways: because it is still coloring our present views of the future—and we need to know how they are slanted—and because it has objective bearing on the future with which we are concerned.

Long-term capital exports in the 1920's reached extraordinary heights. For the decade as a whole, we expanded private investments abroad by some \$9 billion, or close to an average of \$1 billion a year. Capital exports absorbed some 10% of our domestic savings during the decade, and at its peak, in 1928, 15%.

Then, in 1931, the bottom dropped out of the market. Repatriation of old investments came to exceed the few new investments that were being made. The "defaultless era in foreign lending" had come to an end. It is not easy to calculate what happened to direct investments, but Ilse Mintz in her recent book on *Deterioration in the Quality of Foreign Bonds Issued in the United States, 1920-1930* (National Bureau of Economic Research, 1951), gives us the story for foreign government dollar bonds. Of all these bonds issued during 1920-29, 35% were in default by the end of 1937; that is, contractual payments on principal or interest were not being met; and the situation was not much different at the end of 1949.

PROFOUND EFFECT ON INVESTORS' ATTITUDES

This experience surely had a profound effect on the attitudes of investors and cannot but explain a good deal of the low level of private, especially portfolio, foreign investment since the 1930's, despite a great increase in domestic savings. Some economists believe, further, that it may tend to affect foreign investment for a long time in the future. When so many investors are badly burned, a cloud of doubt is bound to hang over the prospects of foreign investment.

Yet time heals all wounds. If other conditions remain tolerable (and we are considering only one factor at a time), the depressing effects of the experience of the 1930's may not be assumed to persist indefinitely.

And this, too, is the lesson of history. The long record of British capital export indicates how periods of substantial investment abroad were followed by long-drawn-out depressions in which little capital left the kingdom. Thus the high levels of British capital export reached in the early 1870's were followed by a deep trough which lasted for years; the next high in British capital exports did not follow until the late '80's. And then came another trough, with the next peak delayed even longer, until just before World War I. If we may judge from this record and the record of other countries, such as Holland, great waves of optimism in foreign investment have indeed been followed by great waves of pessimism. But, in turn, these waves of pessimism came to an end and were succeeded by revivals which went on to generate other floods of capital export. Indeed, the great capital export boom of the 1920's is itself an example of the tendency eventually to forget disasters of the past. In short, granted other necessary conditions for foreign investment, the memory of the 1930's

need not prove to be a permanent obstacle to a rise in foreign investment.

On the other hand, however, the experience of the 1920's and 1930's should not be dismissed entirely. After recovering from the tulip mania, the Dutch went on to other speculative enthusiasms—but not about tulips. Foreign securities were largely new to American investors in the 1920's. And to most American bankers as well. Among the causes of the debacle of the 1930's, Sir Arthur Salter points to "the hastily improved new foreign bond-issuing system in America, and the neglect of the careful investigation and precautions which had been customary with the older institutions concerned with foreign investment, in Britain and elsewhere." (*Essays in International Finance*, No. 12, Princeton University, February 1951.) The 1920's and 1930's provided an experience of educational value to the United States. Also, the depression of the 1930's was probably more severe than earlier depressions, and its effects might on that account be expected to persist longer. It need not prevent a revival in foreign lending and, eventually, even a boom; but it may apply brakes to it.

If this is the case, it must be taken into account in using the experience of the 1920's to determine the prospects of foreign investment. The National Association of Manufacturers, for example, has taken the events of the 1920's to provide a reasonable basis for calculating capital export possibilities in future prosperity periods (*Capital Export Potentialities after 1952*, March 1949). More exactly, the ratio of capital exports to national income in 1922–29, 1.1%, was deemed suitable for application to national income in future periods in order to estimate a likely level for capital exports. Granted a favorable economic climate abroad, a year of prosperity at home with a national income of \$250 billion might see foreign investment amounting to \$2.7 billion, according to the NAM.

However, if the experience of 1922–29 reflects an unusually strong capital export boom, which is unlikely to occur again because of the very strength and effects of that experience in a new field of investment, the 1.1% is too high a proportion to be considered generally reasonable (abstracting from the effect of an upward trend) even for periods of prosperity.

The fact that international capital movements have been typically subject to great cycles of expansion and contraction raises another question about the applicability of the experience of the 1920's. If the future into which we are looking consists of years of prosperity surrounded by years of depression, the proportion between foreign investment and income in past years of prosperity, similarly surrounded by depression, may be acceptable as a basis for estimation. If the future is visualized as one of *indefinitely continued* prosperity, in which severe depression is no longer in the cards, future and past periods of prosperity can no longer be considered to be similar. The appropriate ratio of investment to income may then be much closer to its "trend value": the latter is a better clue to an indefinitely sustainable proportion. On this account, too, the experience of the 1920's is not necessarily directly applicable to the future.

Finally we come to our third factor, the huge "demand"

for capital created by World War II. By this we do not mean the large volume of capital needs produced by the destructive effects of World War II. Presumably, much of this has already been taken care of by international government loans and mutual aid, and little if any is left over. Far more important is the "demand" stimulated by the spread of knowledge during the war and the war's effect in changing the political map.

Many nations have become awakened to and (so some of them feel) free to do something about their backward economic position. *Corporaciones de fomento de producción* have been empowered to raise (or try to raise) standards of production and consumption. It would seem that almost every country with the necessary economists and statisticians—and many without—have prepared large-scale plans for investment. For all, of course, these are far in excess of domestic capacity to save.

In short, the impression is being given of opportunities for foreign investment of a scale never seen before. We may quarrel with this on two grounds. First, the plans are not wholly sound; and, second, even if sound, they are not fully feasible because of other developments associated with their origin.

One might, of course, cast doubts on the soundness of the plans by pointing out how easy it is to draw up large-scale development plans. All that is needed is a pencil and paper, a map, and some imagination to devise any number of Missouri Valley Authority projects. And one may therefore wonder how large a fraction of the reported capital requirements is the result of mere pipe dreams, rather than carefully thought-through objectives. But almost any scheme of investment can be held up to ridicule when it is proposed; *no* investment can be determined to be thoroughly sound in advance.

More reasonable grounds for doubt of the soundness of these development schemes arise mainly because capital investment by itself is insufficient for economic development. Along with the building of roads or mills or power equipment—and assuming the investments are balanced properly—there must go the development of labor skill, attitudes basic to the operation and utilization of an industrial system, codes of commercial law and morals, business enterprise, capital markets and savings institutions, and a host of other essentials. The list is long, and a good sampling from it can be found in the United Nations report on *Measures for the Economic Development of Underdeveloped Countries* (May 1951). But this is the crucial point: The speed with which these essential ingredients of economic progress can be developed is slow and must necessarily set the pace of sound capital investment. One has the impression that most current development and investment plans are paced too rapidly. The eyes of the backward countries are bigger than their stomachs. The limitation is their "absorptive capacity."

I say: "One has the impression." Most of the plans say too little about the details of the investments "required" and hardly anything of the parallel changes equally basic to economic advance. We therefore cannot be sure of the extent of their exaggeration; however, the very lack of information is itself a serious bit of evidence that insufficient

thought is behind these schemes and that they are, to a considerable extent, half-baked.

But this is not all. Suppose we grant that the awakening of backward countries has opened up opportunities on a large scale. Can we say that prospects for foreign investment by the United States are therefore highly favorable? The answer is No, because other conditions also must be favorable, and these other conditions may be rendered unfavorable by the very causes of the urge to industrialize.

Consider the circumstances in which these schemes have been developed: an intense nationalism, acting as a spur to the development of economic strength and independence, on the one hand, and the urgent desire to provide full employment and security, on the other. Nationalism and the desire to be "independent" leads, for example, to fear and hatred of foreign control of important sectors of the economy; it fosters discrimination against foreigners. The policy of attaining or maintaining internal economic stability, and the associated trend towards socialism, causes the erection of barriers to insulate the domestic economy from shocks originating in the outside world. Both, then, tend to create obstacles to the free flow of foreign capital and to heighten those already in the way.

Obstacles to foreign investment are not new; they have been discussed by economists for many generations. Adam Smith provided a basic list which held good for over a century. Especially since the 1930's, however, the list has become so large and complicated as to make a difference of kind, rather than degree. Discrimination against foreigners through prohibitions, taxes, exchange controls, and regulations has been greatly heightened; fear of expropriation has grown.

The impression of a huge and *effective* existing demand for foreign capital, which makes the future of foreign investment bright, is therefore something of an illusion. Yet, though the obstacles noted must temper our assessment of the near future, not so much weight need be given to them in assessing the longer-run future. For there is no necessary and inevitable relation between domestic economic and political policies, on the one hand, and obstacles to foreign investment and trade on the other (except between the two camps separated by the Iron Curtain). Indeed, much attention is being given to the question of how to sever the connection, and beginnings have been made in answering it. The program of investment guaranty—against loss from expropriation and the risk of currency inconvertibility—of the Mutual Security Agency is in motion (see the Agency's *Investment Guaranty Manual*, published in June 1952).

Still other (and better) ultimate solutions of these and other aspects of the problem are not deemed impossible by economists. This may be illustrated with reference to the risk of inconvertibility. Frank D. Graham pointed out in January 1949 (*The Cause and Cure of the Dollar Shortage, Essays in International Finance, No. 10*, Princeton University) that "Uncoordinated national monetary policies [read: full employment policies], non-discriminatory, multilateral, trade on the basis of free enterprise [read: the free flow of capital across international boundaries], and exchange rates fixed, even provisionally, cannot be

made to mix. We must choose between them." Once the goal of fixed foreign exchange rates is abandoned and succeeded by free foreign exchange rates, most if not all of the controls over foreign exchange (and trade and investment as well) could be eliminated. Despite impressions to the contrary, fluctuating foreign exchange rates need not be a severe obstacle to capital investment; but this is another point into which we cannot go.

There can be no doubt, therefore, that the political and economic changes of the past two decades have created obstacles to foreign investment which dim the *immediate* prospects. But these obstacles can in time be overcome and in fact are slowly being overcome as we explore and experiment and create new institutions to deal with them. The far prospects need not be as dim.

All this means that, in our assessment of the future, we must define the *time* pattern of foreign investment. We should not see it as a plateau, high, low, or intermediate. We should see it *rising* as we learn to live together in the new world of the 1950's, and succeed, step by step, in attaining our objectives with less cost to ourselves and our neighbors.

I have not attempted to do more than discuss a very few of the basic factors that must enter everyone's reflections on the future of foreign investment. And I have discussed even these few in rather general terms. An adequate assessment of the future of foreign investment must be more explicit about, and distinguish sharply among, the short run, the intermediate run, and the long run. Even if one is interested solely in private investment, one must consider what will happen to Government capital export. The possibility of future capital exports by countries other than the United States must be explored. Because foreign trade and mutual aid affect and are affected by foreign investment, their future also is involved.

One must note the great importance of Canada among the outlets for American foreign investment and use this fact in estimating the strength of the obstacles to international capital movements. One must distinguish between direct and portfolio investment, between equity and fixed-income securities, and between dollar bonds and foreign-currency bonds, for experience with each of these has been different, and the same factors may affect each differently. One must consider the possibilities of change in the laws regulating investment by insurance companies and trustees and of the establishment of an effective International Finance Corporation (such as the International Bank for Reconstruction and Development discussed in its April 1952 report). And so on.

Were all these matters carefully weighed, no simple forecast would emerge. Nor would a solid statement on the future of foreign investment be an unconditional one. Like all honest forecasts, it would be coupled with the phrase: "It depends." Even passing over the great question whether the future will bring peace or war, it depends on how rapidly we learn to overcome or circumvent the obstacles to international trade and investment that past war and political change and catastrophic depression have piled up. After appraisal and consideration there remain merely possibilities and food for thought.

Investment Opportunities in India

DONALD B. MACURDA

ONE OF THE LAST SOUNDS I heard on leaving Delhi this summer was the swoosh of a flying Comet on its initial run from London to Ceylon. These jet air lines and their prototypes on the draftboard bring the other side of the world within 24 hours distance, or about the time it takes by train to go from New York to the Mississippi River. India, which to me had come richly to life as a consultant to the World Bank on a Special Steel Mission, can no longer be regarded as a remote, far distant land, but a next-door neighbor, whose well-being, progress, and contribution to the world community is a matter of first concern. In older days a world center of culture and trade, under its new government it is experiencing a rebirth, despite attendant pangs, as a young and vital nation dedicated to the advancement of the common man. As such India deserves our understanding, our technical assistance, and our venture capital so that the people of two great areas can stand together against the disruptive influences of our times. There is an urgency involved in broadening India's internal economy, which requires within the present decade the compression of the ordinary progress of a century. Foreign capital can materially help in meeting present emergencies, with the risk factor diminishing in direct proportion to the speed with which the flow of funds develops.

A first step in investing capital in any venture is to get a feel of the background. From this it is possible to appraise the company's potentialities and, more important, the resourcefulness and ability of its management. The same procedure is applicable to foreign investments, the only difference being that it is doubly applied, first on the country and second on the company.

INDIA'S GOVERNMENT

In India we find a country that in the broad sense is about where the United States was when George Washington assumed the Presidency. There has been a parallel revolt against British colonialism, which practiced exploitation through taxation and control of trade and industry. This culminated in India's becoming a "sovereign democratic republic" on January 26, 1950. India's constitution is modeled after that of the United States and contains a similar bill of rights. Its Government is elected by the people, and consists of a president, vice-president, a council of ministers (cabinet), headed by a prime minister, and a Parliament (Council of States and House of the People). The 28 federated states have governors appointed by the president and organizations similar to the federal system. Although Hindi is the state language of India, English is widely used in Government, leading newspapers and journals, and in business.

Like the United States in the 18th century, India is predominantly an agricultural economy. It has already experienced an internal upheaval and, as a fledgling republic,

has had to find the wherewithal to house, clothe, and feed some 7,500,000 refugees. It is resolutely facing the problems of breaking up the caste system, of land reform, of teaching new methods of agriculture so that it may be able to support its 362 million people, and of building up its transportation system. It is now undertaking large reservoir and irrigation projects, is financing new hydroelectric plants, and is pressing for the expansion of key industries, such as steel, coal, nonferrous metals, pharmaceuticals, and textiles. The twin problems of famine and inflation, which have caused the downfall of many governments, are steadily being surmounted by a consecrated group of public servants, whose normal working days run from 6 A.M. to 8 P.M. or later at night. On the basis of ability, integrity, intellectual honesty, and devotion to duty, India's administrators are outstanding among today's world governments. In short, they are people who can be trusted and are entitled to a top credit rating.

The Indian people have already expressed their continued confidence in the new Government by voting the Congress Party an even greater parliamentary majority in the recent national elections. Over 60% of the registered voters cast ballots, compared with 51% in the 1948 national elections in the United States. With only 27 of the 497 members in the House of the People, the Communist Party hardly qualifies formally as the Opposition. It is, moreover, extremely unlikely that India will "go Communist" after subsequent elections, or that their numbers in Parliament will necessarily be increased. With the next elections four years away, the Congress Party has further time in which to produce results from its five-year plan. Some results in the form of fertilizers, locomotives, power and irrigation projects already are in an advanced stage of development, and additional accomplishments can be expected. Furthermore, there is a growing awareness among the people that they are masters, for the first time in the modern industrial era, of their own destiny. It seems unlikely that they will turn the reins immediately over to a group that not only promises the return of external domination but also stands as the antithesis of their religious beliefs.

REACTION TO FOREIGN PRESSURE

Their reaction to foreign pressures has been well exemplified in the rejection of our own proposed initial terms for a wheat loan, and most recently in the return of a food gift from China which was to be distributed by the Communist Party in India and the heading off of a similar move from Russia.

However, patient as the average Indian is, he cannot be expected to wait indefinitely for a rise in living standards. Therefore, there is an underlying urgency to the Government's five-year program. The continuance of India in the democratic column of nations could well depend on

the speed and amount of enlightened foreign capital flowing into the country in the next few years.

Any investment undertaking must recognize at the outset that the country's foremost problem is to provide its people with the bare necessities of life—food, clothing, and shelter. Until this problem is well on the way to solution, social considerations properly will continue to be foremost in the Government's thinking. Prime Minister Nehru in his earlier speeches made it clear that certain basic industries—the key industries—should be under state control. "As for the other industries, they can be under private control, but remember again that, when a state plans its industrial or other development, planning itself involves a certain measure of control or direction from the State." A little later in his writings he continued, "We mentioned certain things which we thought must be immediately undertaken by the State or nationalized—if you like to use the word—and for the rest we said, even in regard to certain basic and key industries, that we would not touch them for at least ten years, maybe more. It did not mean that we would necessarily touch them immediately after the 10-year period." Practical considerations and limited resources have since caused a moderation of these views to the extent that such resources are being better used in starting new basic industries or new projects rather than in merely transferring the ownership of some industries from private hands to state control. There is a growing awareness that encouragement of capital can be of prime assistance to the Government in meeting its social objectives within the time deadline. In fact, new capital is now being encouraged with the prospect of a somewhat larger per cent return on gross block (roughly our gross plant account) than customary on controlled industries, and for the Standard-Vacuum and Burmah Shell oil refineries which are now being constructed this encouragement has been accompanied by a guaranty against nationalization for twenty-five years.

Further evidence of a practical view toward foreign capital is contained in a press release from New Delhi dated September 11, 1952, in which T. T. Krishnamachari, Minister of Commerce and Industry, stated that the Government had no intention of nationalizing the tea industry, although 80% of it was owned and controlled by British interests.

EXPANDING STEEL CONSTRUCTION

The Government's position on a "key" industry was well brought out in its approach to expanding steel construction as envisioned in its five-year plan. In this fundamental step towards economic diversification, it has indicated a willingness to have the existing steel companies expand their facilities within physical and financial limits instead of doing it as a state project. Assistance to the private companies is being offered in the forms of: guarantee of foreign loans in the amount of foreign exchange needed to purchase physical units abroad, providing the necessary foreign exchange, increasing the selling or consumer price of steel sufficiently so that the Equalization Fund can provide to the companies the balance of local funds needed for the construction program, providing the repayment of these local advances only to the extent extraordinary allowances

permit, and otherwise making compensatory adjustments in overhead charges.

To take care of expanding needs by 1960 India is considering the setting up of either a third major steel company or two smaller units. Though initial thinking on the third unit has been that it would be a state-controlled enterprise, there was a strong intimation that a favorable hearing will be given to private interests who could accomplish the objective. Furthermore, to interest new capital a larger return on gross block, up to 10%, is well within the realm of possibility.

REGULATION OF OTHER INDUSTRIES

Investment in industries or developments not of the "key" type are subject to less direct and indirect regulation than has been so in the United States in recent years. Thus, by still another test, that of the general climate for investment, India deserves major attention from foreign capital.

Finally, the opportunities for venture capital combined with technical assistance, measured against the background of an accelerated program of industrialization, are theoretically limitless. Businesses that would create additional export markets for India, based on Indian raw materials and labor costs, should be able to find a wide marketing territory throughout Asia and the Middle East. India, for example should logically become one of the world's great steel centers. It is richly endowed with high-grade iron ore with ample reserves of good-grade coking coal in the same area, low transportation and labor costs, all of which combined make the country the world's lowest-cost producer of iron and steel. With the development of this industry beyond internal needs, it can export substantial quantities of primary iron and steel materials to other areas. Of greater long-term import will be the natural attraction of secondary industries to India once steel becomes available. Automobile manufacturers, refrigerator companies, air-conditioning manufacturers, and a host of others would find it economically practical to use the Calcutta region as a production and distribution area for their eastern markets.

India possesses all the important ingredients to make her a great industrial nation. In this subcontinent area can be found nearly all the important raw materials: petroleum, salt, sulfur, manganese, bauxite, chromite, mica, magnesite, and the rare minerals and earths including thorium and uranium. Long noted for its textiles, India has now become a net exporter on balance, and leads the world in output of such specialties as burlap, tea, pepper, and shellac. She is deficient in the production of machinery and equipment of many sorts, of electrical apparatus, dyestuffs, medicinals, and petroleum products. Her chemical industry is in its infancy, and the development of public utilities as we know them has hardly begun. Mass distribution in the form of low-cost chain store merchandising, from toys (which are practically unknown) to utensils, has hardly begun, and yet potentially India has the greatest mass market in the world awaiting development. Again from a practical point the opportunity for investment capital will be broadened as it creates the jobs which will raise the standard of living.

Once given a worth while and sustained push by both Government and private venture capital, the Indian industrial ball will gather an accelerating momentum that could be enriching to all concerned. This time, however, foreign capital, to do its part properly, must share and leave real wealth in India. The days of maximum exploitation are dead in India as well as elsewhere, but the days of constructive and profitable partnership have just begun. This is evidenced in the principles that govern repatriation of foreign capital by residents outside the country. In general, capital invested after January 1, 1950, in projects approved by the Government of India may be drawn out at

any time, and profits also. Repatriation facilities would not apply to purchase of shares on the Stock Exchange unless they were an integral part of an approved investment project.

In summary, India provides a wide variety of investment opportunities. It has a Government and a general investment climate under which capital can prosper, as long as it makes a real contribution to the country's well-being. Potentially, it has the greatest mass market in the world, the awakening of which requires the stimulation that only comes from the drive of venture capital, and it could dominate Asian markets.

* * *

July 4, 1791 . . . announcement that books would be opened for subscription for stock for the Bank of the United States at Philadelphia. Before the close of July a wild desire to speculate in scrip broke out at Philadelphia and New York. August 1 the scrip had gone above par, a week later \$280 was paid for it in New York (*New York Journal*, August 3, 1791). On August 11 scrip sold at New York for \$205 and \$320 at Philadelphia. "By sundown of the twelfth of August the scrip price declined to \$100! (original price \$25.) Jefferson wrote: "Ships are lying idle at the wharves, buildings are stopped, capitals are withdrawn from commerce and agriculture to be employed in gambling, and the tide of public prosperity almost unparalleled in any country is tarried in its course, and suppressed by the rage of getting rich in one day." Bank stock speculation continued, with wild gyrations in the prices of shares.

1792 . . . Robert Morris purchased land in Massachusetts.

1792 . . . January Advertisement in the *American Daily Advertiser* read:
"All you, then who court delicious repose,
Come quickly before the subscriptions all close,
With your cash in your hands to Corre's all flock,
And purchase in deep, very deep of the stock."

*There'll
always be
a cookie jar*

Keeping cookies in the house goes along with our belief in education, decent clothes, proper medical and dental care. All part of the American way of life, the highest standard in the world, but occasionally making stiff demands on pocketbooks.

That's when a Beneficial Loan can be helpful—by providing a way to bridge the gap between paydays without entailing family sacrifice.

The more than 700 offices of the BENEFICIAL LOAN SYSTEM in this country and Canada make personal loans for worthy purposes—repayable in monthly instalments out of income. They are helping to keep the cookies in the cookie jar.

*A Beneficial Loan is for
a beneficial purpose.*



Beneficial Loan Corporation

WILMINGTON, DELAWARE



Subsidiary loan companies operate under the following names: PERSONAL FINANCE COMPANY
COMMONWEALTH LOAN CO. ... LINCOLN LOAN CORPORATION ... WORKINGMEN'S LOAN ASSOCIATION, INC. ... BENEFICIAL FINANCE CO.
CONSUMERS CREDIT COMPANY ... PROVIDENT LOAN AND SAVINGS SOCIETY OF DETROIT

Changes in Income Distribution—Past and Future

GEOFFREY H. MOORE

ONE OF THE MOST SUBTLE YET SIGNIFICANT economic changes in recent decades has been the shift in what economists call the distribution of income by size. It is subtle both because the problem of getting an accurate and meaningful answer to the question, "How many people get how much income?" is difficult, and because the change has been brought about by many different factors operating in relatively undramatic fashion. It is significant because of the magnitude of the change and its manifold effects. What evidence do we have that such a fundamental change has come about? What are its causes? What are the prospects for further change?

SURVEYS OF INCOME

In recent years a large number of surveys have been made in which people have disclosed their incomes. Table 1 reports the results of two such surveys, one for 1935-36, the other for 1948, and it illustrates two different ways of summarizing the information. In the top section of the table, families and single individuals are classified in certain dollar income classes, and the figures show that the proportion with incomes of \$10,000 and over, and of \$2,000 to \$10,000, has increased sharply, while the proportion with incomes under \$2,000 has diminished considerably.

Now changes of this sort might be brought about simply by the very great shift in the general level of incomes between the two years. The average money income per family or single individual in 1935-36 was about \$1,500; in 1948 it was nearly three times as great, \$4,200. If everyone's income had increased in this proportion, the number of individuals with incomes of \$2,000 or less would naturally have diminished, and the number with incomes above this increased. Moreover, if prices had in-

creased in the same proportion too, neither group would have been any better off than before.

However, this is not what happened, and the lower set of figures in Table 1 helps to prove it. Here the families and single individuals are ranked in each year according to their income, and the incomes of the top 20%, middle 60%, and lower 20% are added up and taken as a percentage of the aggregate income of the whole population in the respective year. The decline in the percentage of income received by the highest fifth (from 53% to 47%) and the equivalent rise for the middle three fifths show that there was a shift in the relative distribution in favor of the middle group. This shift does not seem to have been shared by the lowest fifth, which got about 4% of the total money income in both years. Nevertheless, it is clear not only that the level of incomes has changed, but that they have not changed proportionately. If all incomes had increased in the same proportion, the percentage shares of total income received by the upper 20, middle 60, and lower 20 groups would have been the same in 1948 as in 1935-36. On the other hand, if all incomes had become equal (that is, equal to the average income per family or individual) the percentage shares would have become 20, 60, and 20 for the three groups, respectively. The actual change was between these two extremes: there was a shift toward equality.

ANSWERS SOME QUESTIONS, RAISES OTHERS

Table 1 answers some questions but raises others. What would be the effect of including nonmoney as well as money income (for example, the home-grown food of farm families, the imputed rental income on owner-occupied homes)? How would the picture be changed if one took account of income taxes? What if one compared 1948 with a prewar year (say, 1929) that was not affected by the Great Depression and the large number of persons who were unemployed and received little or no income?

Results of a recent investigation by Simon Kuznets at the National Bureau of Economic Research help to answer these questions.* They are based not on questionnaire surveys but on Federal income tax returns. Hence, except in recent years only the upper income groups are covered in detail. Moreover, the income unit used is not the family or single individual per se but the income recipients and dependents covered on a personal income tax return. The income reported, together with various adjustments (such as the addition of nonmoney income) designed to make it approximate economic income as used in national income statistics, is converted to a per capita basis by dividing by the number of individuals covered. Table 2 shows the average incomes and percentage income shares of dis-

Table 1. Income Distributions
1935-1936 and 1948

	1935-36	1948
Money Income, % of Total Number		
of Families & Individuals:		
Over \$10,000	1	5
\$2,000-\$10,000	18	69
Under \$2,000	81	26
	100	100
Families & Individuals, % of		
Total Money Income:		
Highest fifth	53	47
Middle three fifths	43	49
Lowest fifth	4	4
	100	100

Income is before income tax. Data are from The Economic Report of the President, January 1950, Henry P. Miller, Changes in Income Distribution in the United States, Journal of the American Statistical Association, December 1951.

*See Simon Kuznets, Shares of Upper Income Groups in Income and Savings, Occasional Paper 35, NBER 1950; also, Kuznets' forthcoming volume by the same title.

nated percentage groups in the population arrayed on the basis of per capita income. The figures are therefore analogous to, though not directly comparable with, those in the lower part of Table 1.

SHARP DECLINE IN UPPER INCOME GROUPS

The table reveals a sharp decline since 1929 in the shares of the upper income groups in the country-wide total income, both before and after taxes. Expressed in terms of per capita income, we find that after taxes the average income of the top 1% group declined 17% between 1929 and 1948, the average for the second to fifth percentage group rose about 30%, while the average for the lower 95% group rose 130%. All this occurred while the cost of living index rose by 40%. Clearly the shift in the distribution of income, particularly at the upper end of the scale and especially when income taxes are taken into account, has been very great indeed. Similar data going back to 1913 indicate that in no year did the percentage shares of upper income groups reach so low a level as in the 1940's.

The causes of this change may be sought first by considering the sources of income on which different income groups depend. One of the basic facts about this is that upper income groups are more largely dependent on property income, particularly dividends and interest, than lower income groups, whose principal source of income is wages and salaries. Now property incomes per capita, taking the country as a whole, showed virtually no increase at all between 1929 and 1948, while labor income per capita more than doubled. This could hardly fail to have had an equalizing effect on the income distribution. Indeed, during the whole period 1913-48 Kuznets' figures reveal that the ratio of total property income to total personal income for the country as a whole roughly paralleled the changes in shares of the top 1% or top 5% income groups.

Other changes in the sources of income, however, have also contributed to equalization. The inflation and attendant price rise tended to benefit farmers and small businessmen. Table 3 shows how they moved up in the income scale.

Another important factor was the change that took place

in wage and salary differentials. Since 1929, and particularly since 1939, low rates of wages have tended to increase relatively more than higher rates, so that the relative differential between them diminished. The average hourly earnings of skilled labor on railroads, for example, increased from \$1.12 to \$1.75 between 1939 and 1948, while the earnings of unskilled labor rose from \$0.42 to \$1.00. In terms of cents per hour the skilled employees got a slightly bigger increase, but relatively their wages increased only 56% against a 139% increase for the unskilled. This phenomenon seems to have been fairly general, both in private industry and Government, and has extended to salaried employees as well as others.

Finally, the large increase in so-called "transfer payments," both private and public, has probably had an equalizing effect on the income distribution. Benefit payments to farmers, social security payments, and private pension plans have increased appreciably in recent years. Government transfer payments were 1% of total personal income in 1929, 5% in 1948. Their effect on the distribution of income, however, is difficult to measure. Often they lead to an "undoubling" of families and hence create many new family units with small incomes. Moreover, the existence of a retirement income may induce some to retire on a smaller income than they could otherwise earn. There is little doubt, however, that the real effect of the increase in transfer payments has been to diminish the degree of inequality in the distribution.

IMPORTANT EQUALIZING EFFECT

As we have seen in Table 2, the increase in income taxes has had an important equalizing effect on the distribution of income after taxes, because of the heavy incidence of taxes on high incomes. It seems likely, too, that it has had a similar effect on incomes before taxes. High taxes put a premium on income of a type that offers the possibility of controlling the timing of its receipt or is subject to tax at a lower rate, and this has no doubt led to smaller reported incomes among those subject to high tax rates. Moreover, high taxes may, in the long run, inhibit the building up of large fortunes from which large incomes are derived. In 1929, for example, incomes of \$1 million or over before

Table 2. Distribution of Income Before and After Taxes
1929-1948

% Groups of Population Ranked by Per Capita Income	Average per Capita			Share of Country-wide Total, %		
	1929	1939	1948	1929	1939	1948
Before Taxes:						
Top 1%	\$11,620	\$7,050	\$12,530	17	13	9
2d & 3d % band	2,870	2,230	4,240	8	8	6
4th & 5th % band	2,120	1,700	3,060	6	6	4
Lower 95%	490	400	1,170	68	72	80
Total population	680	530	1,380	100	100	100
After Fed. Income Taxes:						
Top 1%	10,810	6,420	8,930	16	12	7
2d & 3d % band	2,870	2,210	3,680	9	8	6
4th & 5th % band	2,120	1,700	2,780	6	6	4
Lower 95%	490	400	1,120	69	73	83
Total population	670	520	1,280	100	100	100

Source: Simon Kuznets, *Shares of Upper Income Groups in Income and Savings*, National Bureau of Economic Research, in press. 1948 figures are preliminary.

Table 3

	Average Annual Income 1929	1948	% Increase, 1929-48
Employees in all private industry, full-time equivalent	\$1,408	\$2,812	100
Farm proprietors	1,018	3,752	269
Nonfarm proprietors, unincorporated	1,684	3,684	119

Source: U. S. Department of Commerce, *National Income*, 1951 Edition.

taxes were reported on 513 personal income tax returns, and the average income on these returns after Federal income taxes was about \$2 million; in 1948, only 149 returns fell in this top bracket, and the average income after taxes was about \$700,000. The investment of just one year's average income after taxes for this income group at the prevailing level of interest rates (say, 5% in 1929, 3% in 1948) would yield an annual income of \$100,000 before taxes in 1929, \$21,000 in 1948. The relative disparity in yields net of Federal income taxes would be even greater.

Basically, of course, many of the changes in the economic environment that are finally recorded in the distribution of income are due to private and public policies and actions. Looking at the matter in this way may help to clarify some of the future prospects for change in the income distribution.

INFLATION

Consider inflation. To many, policies and actions that will result in continued inflation in this country over the long run seem a very likely prospect. What has inflation done to the income distribution? What else might it do? What if it were brought to an end?

Surprising as it may seem, I think that a good deal of the income equalization that has come about since 1929 is due, in one way or another, to inflation. For example, the declining differentials between high and low wage rates seem to be characteristic of inflation. Studies of the experience of the United States in the Civil War and in World War I, of England in World Wars I and II, and of Germany's inflation following World War I all disclose the same phenomenon.[†] The lag in salaries compared with other wages is also characteristic of inflation, as well as of ordinary business cycle movements. The sharp rise in farmers' and other business proprietors' income too is typical when prices advance rapidly.

Most types of property income seem to move up relatively slowly during an inflation, though special factors that we shall mention in a moment have reinforced this lag in recent years. Receipts from rent are, in part, governed by the existence of long-term leases and to that extent advance less rapidly than other types of income. Similarly, the sluggish behavior of interest receipts is partly inherent in the nature of loan contracts: Contractual interest rates usually remain fixed for the duration of the loan, and at any given

time the principal amount of debt outstanding, on which interest is being paid, is made up of obligations incurred at various dates in the past, which means, during an inflation, at price levels lower than the current level. Dividend rates per share also tend to lag, and the number of shares outstanding is slow to change.

Although these generalizations of historical experience are suggestive, inflations also have a way of expressing their individuality, and moreover may not exhibit the characteristics of the species at all stages in their development. Hence it is by no means certain, at the present juncture, that, if inflation continues, there will be a further equalization of incomes. On the other hand, if it stops, it seems pretty clear that some of the lagging elements described above will catch up and tend to reverse the trend.

Inflation is not the whole story, however. Some of the factors influencing the shift in income distribution have originated more directly in government policy. The failure of interest rates to rise during 1939-48 can hardly be attributed to inflation; under similar circumstances in 1914-20 interest rates rose substantially. Monetary policy and Federal debt management, together with a large program of Federal lending and loan insurance, have so far kept interest rates at low levels. Similarly rent controls at various levels of Government have tended to limit the rise in property income derived from rent. Moreover, as we have seen, the rapid increase in governmental transfer payment has tended to lift incomes at the lower end of the scale. Finally, governmental tax policy, as reflected in the rise in the proportion of revenue collected via income taxes and the increase in the level and progressivity of income tax rates, has had a significant influence on income distribution both before and after taxes, as already suggested. These intricate influences of policy have contributed much to the shift in income distribution since the '20's, and policy decisions along these lines will continue to exercise an influence in the future.

Finally, we should mention the possibility that a change in the distribution of income may have cumulative effects, resulting in further changes. However, the effects of a change in income distribution on incentives to earn, to save, to invest in a business, to invest in oneself or one's children—and hence on the future distribution of income—are matters on which, unfortunately, we have little tested knowledge to depend, despite a great deal of speculation. Only when empirical studies of the phenomenon have penetrated much farther than they have to date will we be in a position to judge whether the shift that has occurred will in itself generate a new trend, and what the nature of the trend will be.

[†]Cf. Leo Wolman's report in the 32d Annual Report of the National Bureau of Economic Research, pages 42-44; W. C. Mitchell's *History of the Greenbacks*; and an unpublished manuscript on German wages by Gerhard Bry (NBER).

Rockwell Report



by W. F. ROCKWELL, JR.
President
Rockwell Manufacturing Company

SEVERAL TIMES in this series we've talked about the extensive research laboratories we operate and the research fellowships we sponsor at several technical institutions. While we think these activities are a fine investment, we also believe that some of our best products or product improvements in the years ahead will come out of someone's garage or small loft shop.

There is nothing like individual incentive to stimulate individual ingenuity. That is why we have set up processes for carefully examining every new product idea that is sent to us, even though most of them are impractical from one standpoint or another. Now and then, among them is an idea that will work, a product that will sell, an invention that will make jobs.

In this encouragement of individual invention, however, a single company like ours can do only so much. Our government, too, must provide incentive in the form of a tax structure that makes it worthwhile for a man to spend long evenings tinkering in his garage.

* * *

Twenty-seven miles south of Chicago's loop there is now a town of 17,000 that didn't exist five years ago. Park Forest, Ill., typical of the post-war suburban communities that have been built in many parts of the country, is also typical of how Rockwell serves American municipalities. More than 1,000 Rockwell water meters have been installed in the new municipal water system. The Public Service Company of Northern Illinois uses Rockwell meters and regulators in providing gas. Nordstrom and Edward valves, both made by Rockwell, are used in the town's own utilities system.

* * *

Short Facts About Rockwell: The Institute of Gas Technology of the Illinois Institute of Technology has a permanent exhibit of Rockwell gas meters and regulators used in training personnel for the gas industry. Illinois Institute has the country's only graduate course in gas technology, and also conducts home study and summer refresher courses for gas industry engineers . . . Many woodworking shops find that only one power saw is necessary if it is a Rockwell-built Delta radial saw. This versatile tool will cross cut, rip, bevel, miter, circle round, bevel rip, sand, shape, tenon, rafter notch, mortise, cove cut, compound miter, groove, plough grain, rabbet, raise panels, grind, radial drill, size and joint, saw horizontally and do many other operations . . . Nedicks, Inc., use Rockwell meters to insure consistent quality in the manufacture of their orange drink and other beverages in their stores throughout the east . . . during the last five years 95 American cities have changed from flat or zone taxi rates to taximeters for fairer charging and elimination of complaints and misunderstandings. Nearly all of these cities use Rockwell-built Ohmer taxi meters, of which more than 50,000 are in active service.

* * *

In Big Springs, Mrs. P. V. Baldrige has one of West Texas' finest motels, and much of it she built herself. Once the chief designer of a leading dress manufacturer, Mrs. Baldrige designed and built dressing tables, beds, chairs, lamps, desks, doors, etc., for her motel, in her Delta-equipped home workshop. Mrs. Baldrige took over the motel when her father died in 1941, and after making small repairs with hand tools, bought some Delta power tools and started to work on a one-woman remodeling and expansion program. Any woman who can learn to use a sewing machine can easily learn to use power tools, she believes.

One of a series of informal reports on the operations and growth of the
ROCKWELL MANUFACTURING COMPANY
PITTSBURGH 8, PA.

for its customers, suppliers, employees, stockholders and other friends



SAFeway STORES
INCORPORATED

Preferred and Common Stock Dividends

The Board of Directors of Safeway Stores, Incorporated, on August 26, 1952, declared the following quarterly dividends:

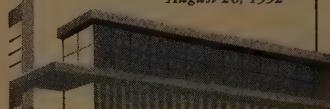
60¢ per share on the \$5.00 par value Common Stock.

\$1.00 per share on the 4% Preferred Stock.

\$1.12½ per share on the 4½% Convertible Preferred Stock.

These dividends are payable October 1, 1952 to stockholders of record at the close of business September 10, 1952.

MILTON L. SELBY, Secretary
August 26, 1952



Southern California Edison Company

DIVIDENDS

COMMON DIVIDEND (10. 171)
PREFERENCE STOCK
4.48% CONVERTIBLE SERIES
DIVIDEND NO. 22

PREFERENCE STOCK
4.56% CONVERTIBLE SERIES
DIVIDEND NO. 18

The Board of Directors has authorized the payment of the following quarterly dividends:

50 cents per share on the Common Stock;

28 cents per share on the Preference Stock, 4.48% Convertible Series;

28½ cents per share on the Preference Stock, 4.56% Convertible Series.

The above dividends are payable October 31, 1952, to stockholders of record October 5, 1952. Checks will be mailed from the Company's office in Los Angeles, October 31, 1952.

P. C. HALE, Treasurer

September 19, 1952

The Rate of Military Deliveries

EDWIN B. GEORGE

THE RATE OF MILITARY DELIVERIES should continue to rise, though at a slower and slower rate, until at least some time in 1953. The rise will be almost entirely in hard goods and construction. Expenditures for soft goods have probably reached and may have passed their peak.

GOOD DEAL OF CRITICISM

There has been a great deal of criticism of military deliveries. Much of it is possibly justified. It is always possible to find something that has been done wrong. But the sum total of military deliveries has been increasing steadily. It will continue to do so because of the volume of contracts already let. The funds already obligated for goods not delivered exceed \$50 billion. Only recently the Defense Establishment has been entering into obligations at an annual rate of almost \$60 billion a year. Another \$40 billion are on hand but not yet obligated. The total expenditures for national security will reach somewhere between \$57 and \$60 billion in 1952 dollars next year, with the peak rate occurring in the third or fourth quarter. (The actual range will be a little above this since prices should average a bit higher.) This compares with a second-quarter 1952 annual rate of \$49.9 billion and a preliminary third-quarter 1952 figure of \$50.8 billion.

Because, for obvious reasons, relatively few figures can be released in detail, concerning backlogs of military orders, it is necessary to rely for our public projections on general statistics, which conceal facts about deliveries of specific categories. I can give you a good illustration, however. For instance, the backlog of aircraft orders was about \$3 billion on June 30, 1950. It reached \$5 billion about the end of 1950 and has now reached nearly \$15 billion. New orders during the last quarter totaled \$2,300 million, net sales a little less than \$1,600 million. The backlog increased \$750 million in this quarter alone. This is illustrative of what is happening in the field of military production and why there is reason for confidence about the volume of deliveries in 1953 and the support that this will give to the general economy.

Though the recent rate of letting contracts may decline somewhat in the near future, it will not decline enough to flatten out the delivery rate projected here for 1953. The letting of contracts has exceeded deliveries. The two curves will begin more nearly to equal each other in the future. Contracts cannot exceed deliveries forever. This fact is important to remember whenever we wonder whether the present high rate of activity for military purposes can endure. But contracts have already been let which make at least the volume projected here almost inevitable, irrespective of what happens this November, or what happens in the Kremlin in the next year.

This is important to note since recent thinking in Washington raises the possibility that there might be changes

in procurement policy which could elevate or lower the aggregate of security outlays over the next few years, depending on which, if any, alternative approach is adopted. You may be seeing some speculations about these matters shortly. I want only to stress again that, whatever happens here, the impact on procurement during 1953 will be imperceptible; hence, the figures shown will not require to be changed on this score.

EFFECT OF STEEL STRIKE

There has been considerable discussion of the effect of the steel strike on military procurement. Our first reaction to the strike was a fear that military procurement would be very seriously handicapped. As a matter of fact, some plants producing shells, which we could not afford to do without, ran into steel shortages soon after the strike began. However, the steel companies have gone far out of their way to make up the loss suffered by contractors for the Defense Establishment. One big steel company set up a special office with instructions to see to it that all backlogs in defense orders were filled not later than September 30. That is, as of October 1, no defense contractor was to have a legitimate order unfilled, which would have been filled had there been no strike. Production for military purposes will therefore again be going at the full speed required by the orders placed within at least a very few weeks. It is a fair guess that the strike insured continuance of CMP for steel through the first quarter of 1953.

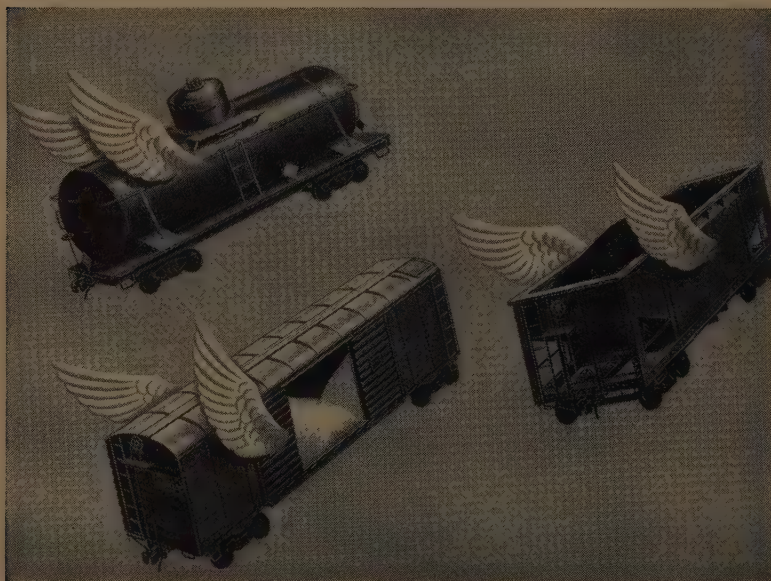
Inventories were, of course, very sharply reduced during the period of the strike. Though military contractors probably will want to restore some of the inventories they had before the strike, NPA orders severely limit the amount of inventories that may be carried even by defense contractors. These limitations probably will be relaxed within a few months. This would mean that purchases could then be stepped up somewhat more than are needed merely for immediate defense orders. This will support the economy a little more vigorously in the first half of 1953 than it might have had there been no strike.

Worth pointing out, growth in national security has been equivalent to the emergence of several new industries. The total has grown from an annual rate of about \$17 billion in the second quarter of 1950 to an annual rate of about \$50 billion in the second quarter of 1952, and, as has been said, it will reach an annual rate of between \$57 and \$60 billion or more some time in 1953—a jump of \$40 to \$43 billion over the annual rate in the second quarter of 1950. In comparison, it was estimated that the total volume of producers' durable equipment delivered in the second quarter of 1952 was valued, on an annual basis, at roughly \$26 billion, while for the same period the annual rate of nonfarm residential construction was about \$11 billion, and that for all other private construction around \$12.6 billion. Thus, the rise of national security

outlays between the second quarter of 1950 and the probable peak of the annual rate in 1953 could conceivably be the equivalent of the second-quarter 1952 outlays (annual rate) for producers' durables *plus* nonfarm housing plus almost half of other private construction. In fact, the prospective addition will be the equivalent of somewhere between close to 80% and over 85% of the annual rate of all private and domestic gross investment in the second quarter of 1952.

The evidence indicates that this tremendous industry

will continue to rise well into 1953 and will not decline much if any in 1953. 1954 or 1955 must be affected by the incoming President and the incoming Congress, as well as by Stalin, all of whom will have a little bit to say about the level of expenditures in this area in those years. However, it is improbable—subject to the previously mentioned reservation about change in procurement policy—that the level will fall in 1954, and this will be a strong influence to sustain the economy in that year, or perhaps even in the year following.



Good by-products Good-bye waste

The chemical by-products from steel production used to be just so much waste.

Today, at Armco, they are valuable materials which make an important contribution to profits.

Armco—pioneer in special-purpose steels—lets nothing go to waste in its production of these steels. Benzol for plastics and synthetic rubber, toluol and xylol for

the paint industry, sulphate of ammonia for fertilizers, pyridine for wonder drugs, slag for roads and insulation, cinders for cinderblocks, and coal tar for a thousand and one uses. These are a few of the by-products of steelmaking that Armco sells.

No longer waste, they are a well-established part of the growing Armco business.

ARMCO STEEL CORPORATION

Middletown, Ohio, with Plants and Sales Offices from Coast to Coast
The Armco International Corporation, World-Wide



CREPED PAPERS • GIFT WRAPPINGS

DIVIDEND NOTICES

Debenture: The regular quarterly dividend of \$2.00 per share on the Debenture Stock will be paid Dec. 3, 1952, to stockholders of record Nov. 10, 1952.

"A" Common and Voting Common: A quarterly dividend of 30 cents per share on the "A" Common and Voting Common Stocks will be paid Dec. 3, 1952, to stockholders of record Nov. 10, 1952.

A. B. Newhall, *Treasurer*

Dennison Manufacturing Co.
Framingham
Mass.

108th
year

JEWELRY BOXES • COMMERCIAL BOXES

MARKING DEVICES • GUMMED PAPERS

TAGS • SEALS • LABELS



Southern California Edison Company

DIVIDENDS

CUMULATIVE PREFERRED STOCK
4.08% SERIES
DIVIDEND NO. 11

CUMULATIVE PREFERRED STOCK
4.88% SERIES
DIVIDEND NO. 20

The Board of Directors has authorized the payment of the following quarterly dividends:

25½ cents per share on the Cumulative Preferred Stock, 4.08% Series;

30½ cents per share on the Cumulative Preferred Stock, 4.88% Series.

The above dividends are payable November 30, 1952, to stockholders of record November 5, 1952. Checks will be mailed from the Company's office in Los Angeles, November 30, 1952.

P. C. HALE, *Treasurer*

October 17, 1952

Aluminum in World Affairs

EDWIN J. MEJIA

AN EXAMPLE OF HOW A PRIVATE BUSINESS, conducting its affairs on an international level, is carrying out its own "Point Four Program" to develop backward and depressed areas—and making that program work to the interests of the employee, the company, investor, and consumer public alike—is, I believe, demonstrated in the present world operations of Aluminium Limited (spelled with an extra i throughout the world, outside the United States and Canada).

OPERATIONS IN 19 COUNTRIES

Through its subsidiaries, Aluminium Limited today conducts operations in 19 countries and has sales offices or agencies in most other countries outside the Iron Curtain. Our principal operations at present are the mining of bauxite in British Guiana, the generation of hydroelectric power and the production of aluminum in the province of Quebec, and the fabrication of aluminum in England by the Northern Aluminium Company, Ltd.

Because our company is international in scope, it can and does create economic stimulation in heretofore undeveloped areas by providing native employment and higher living standards in those areas. As a result, new markets are opened—an achievement that could not be realized so readily if Aluminium Limited were exclusively a local concern.

CAN INTEGRATE EFFECTIVELY

Then, too, our company's long experience with various technical and economic phases of aluminum production enables it to integrate effectively extensive research and development projects undertaken by the people located in regions in which the company is represented. This on-the-spot co-operative pooling of ideas, plus the fact that the company constantly keeps its finger on the international pulse, offers advantages which, I believe, are obvious.

FORMED IN 1928

Aluminium Limited was formed in 1928 as a Canadian company. In exchange for its shares, Aluminium Limited acquired nearly all the properties that the Aluminum Company of America—Alcoa—then owned outside the United States. These shares were immediately issued by Alcoa to its own share holders. Although on that first day of its existence Aluminium Limited's list of share holders was identical with Alcoa's, significant changes have since taken place in that list. In 1928 we started with 943 share holders. Today we have more than 12,000 share holders which, incidentally, represents an increase of more than 100% in the last twelve months alone.

There were two main reasons for the formation of the new independent Canadian company. First, raw materials from foreign countries flow to Canada for aluminum production. The metal then goes out to world markets for

fabrication and sale. Therefore, it was believed that an integrated development could be better achieved by an independent corporation at the center of operations than by a foreign department or subsidiary. Second, it was felt that Aluminium Limited would be in a better position to sell its Canadian-made product than a U. S.-managed company competing in a world that was then being swept by a wave of economic nationalism as expressed by such slogans as "Buy British"—"Buy Swiss"—"Buy Austrian."

DECISION JUSTIFIED BY DEVELOPMENTS

The wisdom of those who brought about this separation has been fully justified by developments and by the passing of time. The new company, which started with about 4,000 employees, \$71 million of gross assets, and an ingot production of 45,000 tons, is now expanded tenfold with 35,000 employees, \$800 million of gross assets, and an ingot production of 450,000 tons. Our principal subsidiary, the Aluminum Company of Canada, is the largest producer of aluminum ingot in the world.

Whatever else may be said about the aluminum business, one remarkable claim can be made—the man is still living, and prominent in the industry today, who sixty years ago locked up each evening, in a factory closet, the entire daily production of aluminum in North America, about 50 pounds. Today that man, Arthur V. Davis, chairman of the board of Alcoa, would certainly have more of a job on his hands dealing with a daily production of over 7 million pounds.

MOST ABUNDANT METAL IN EARTH'S CRUST

Aluminum is the most abundant metal in the earth's crust. In fact, it can be said that every clay bank is an aluminum mine. Unfortunately, however, aluminum cannot be commercially extracted from ordinary clay where it is chemically combined with silicon.

BAUXITE

Bauxite is the name of this ore universally used today. It takes its name from a town in southern France, Les Baux, where the ore was first identified over one hundred years ago.

The first step in the production of aluminum is to separate the alumina, that is to say, the aluminum oxide, from the other metallic oxides in the bauxite. Though the chemical process for this separation is complicated, the principle itself is a simple one.

The process is not unlike what we would do to separate table salt from a mixture of sand and salt. We would simply pour water into the mixture to dissolve out the salt, filter the solution from the sand, and then evaporate the water to get the pure salt.

In the bauxite mixtures caustic soda is used instead of water to dissolve out the alumina.

The next step in the production of aluminum is based on the revolutionary process discovered by Charles Martin Hall, in Oberlin, Ohio, and by Paul Heroult in Paris, France, in 1886—and perhaps at the very same instant of time. These two men—who had never met—did not know that they were working on the same solution of the same problem; they were both 22 years old when they made their discovery, and they both died, wealthy men, too, in 1914 at the age of 51 years. This must surely be one of the great coincidences in the annals of industrial history.

PROCESS STILL BASICALLY THE SAME

Their process for driving the aluminum out of aluminum oxide is still basically the one used today. White granular alumina is dissolved in a cryolite bath in a large rectangular pot. A heavy electric current passed through the pot drops the aluminum to the bottom as pure molten metal to be tapped off and cast into pigs or ingots.

By that process 20,000 kilowatt-hours are required to make a ton of aluminum. That is a lot of electricity! It is enough to supply all the electrical requirements of the average American home for over ten years! In fact, so much power is used in the making of aluminum that we think of the metal, and frequently refer to it, as "packaged power"—power that can be compactly and conveniently shipped to countries and places where local power is costly or in short supply.

Every tenth of a cent—or mill—per kilowatt-hour in the cost of the power means one cent in the cost of aluminum. One-mill power means one-cent power cost. Four-mill power means four-cent power cost. At a sales price of 18 cents a pound for aluminum, that is a major production factor.

CHEAP ELECTRIC POWER

The key to the economic production of aluminum is, therefore, not the earthy ore, bauxite, but cheap and low-valued electric power in large quantities. That is why Canada, where no bauxite has ever been found, is a natural place to make aluminum, and that is why the long ore haul from the tropics is economical.

In reference to hydroelectric power—the key to economic production of aluminum—I was interested to learn recently that the U. S. Government approved more than \$1 billion worth of new electric power projects during a five weeks' period ending in April.

GOVERNMENT'S ULTIMATE AIM

The Government's ultimate aim is to increase the country's annual power-generating capacity of 70 million kilowatts to 30 million more by 1954. Some observers believe, however, that, even though new power plants are being built on the scale contemplated by the Government, there will still be wide sections of the country short of power two years hence.

I mention this only because the U. S. power picture is in such pointed contrast to that of Canada.

There is an enormous potential of electric power in the full-flowing rivers of eastern Canada and in the highwaters of the lakes in western Canada. And, unlike the power that is now being developed from other sources in the

United States, Canada's power is inexhaustible—and will remain so as long as water continues to run downhill. Moreover, in the areas of eastern Canada where we now operate and in the wilds of British Columbia where we are presently constructing a vast new project, there is no great demand for power to bid up its price and thus to make its use for aluminum production uneconomic.

REQUIRES COMPARATIVELY LITTLE LABOR

The making of aluminum metal from ore in itself requires comparatively little labor. It provides employment for only one worker per 100 tons of metal produced. In fabrication, however, the situation is much different. Here, the ratio is five times as great, requiring five workers for every 100 tons of the metal worked. A 100,000-ton aluminum plant needs approximately 1,000 people; yet, the same amount of electricity used for this would provide jobs for 75,000 men in the textile or iron and steel plants. Therefore, the importation of aluminum ingot from Canada provides thousands of jobs for U. S. labor.

As for the growth of the aluminum industry, it is certainly no exaggeration to say that, since the discovery of the electrolytic process, it has been absolutely phenomenal—and demand for the metal still exceeds supply. Starting with 8,000 tons in 1900, production had by 1951 multiplied 200 times to 1,720,000 tons. Of this amount, 26% was our own Canadian output.

This industrial growth can be ascribed in the first place to the utilitarian characteristics of the metal itself. Aluminum is light in weight, being about one third as heavy as steel or brass. It is an excellent conductor of electricity and heat, it is easy to form and work, it has the strength of steel when alloyed with certain other elements, it has a pleasing appearance, and it is highly resistant to atmospheric corrosion.

Economic factors, however, have chiefly accounted for the rapid growth in the civilian use of the metal in the last dozen years. For, whereas the price of other metals has doubled and tripled since prewar days, even the fifty-cent dollar of today buys more aluminum than did the hundred-cent dollar in 1939!

USE ON LARGE VOLUME BASIS

Then again, production capacity now permits its use on a large volume basis for the first time. In North America, after World War II, aluminum began to be measured by the ton instead of by the pound. It is my belief that the economic factors of price and production capacity, coupled with important technological advances and, in North America, with additional sources of supply, will all lead—when defense requirements let up—to another great expansion in the civilian use of aluminum.

Our experienced market analysts have made extensive estimates for worldwide aluminum demand in 1960. In a conservative estimate we calculate world demand eight years hence at 3,300,000 tons, of which 1,800,000 would be taken by the United States and 1,500,000 by the rest of the world. To meet this estimated demand of 3,300,000 tons, there will be a world production of 2,700,000 tons—600,000 tons short, even if all announced expansion plans are completed and even if all high-cost plants continue to

operate. The demand estimates of the three American producers as recently quoted in the *Wall Street Journal* were even larger than our own. What is this demand for? Houses, ships, teapots, skyscrapers, stepladders, automobiles, airplanes, containers, home appliances, and a thousand other useful articles. In fact, there are an estimated 4,000 different uses today for this once more-precious-than-gold metal.

Looking then to the future, we are now engaged in a \$380-million expansion program which includes two new dams and powerhouses in the province of Quebec, the mining of bauxite and the extraction of alumina in the island of Jamaica, and the vast project in British Columbia for the generation of cheap hydroelectric power and the reduction of the Jamaica alumina into metal.

To help meet growing U. S. demands for the "magic metal of the 20th century," our subsidiary, the Aluminum Company of Canada (Alcan) is undertaking to increase production by some 45,000 tons this year and another 45,000 tons in 1953. The development in the British Columbia wilderness will add about 90,000 tons annually by 1954 and could eventually be economically developed to support a capacity of more than 500,000 tons annually.

Aluminium Limited will strive to share in supplying the over-all demand by making ingot available at economic

prices to the many fabricators in all markets and by assisting in the further development of the fabricating industry in areas where economic and political considerations and the demand for development seem to justify such steps.

We Americans who are with this company are very well satisfied to have 80%—and an increasing percentage—of our physical assets in Canada. Canada is a truly American country in the full sense of the word. It has an enlightened democratic form of government and a community of defense and economic interests with the United States that is well recognized on both sides of our common border.

Its national finances are in splendid shape—the Canadians having reported the almost embarrassingly large budget surplus of \$700 million at the end of last year. And that dollar is one which, after the discontinuance of all exchange controls some months ago, promptly rose to parity with American dollar.

Aluminium Limited, I think, exemplifies in a most realistic manner the recognition of the common interest of the two countries. Our shares are listed on U. S. stock exchanges as well as on Canadian stock exchanges. We pay our taxes in Canadian dollars but we pay our dividends in U. S. dollars.

And Canadians and Americans are found genially working side by side at all levels of our organization.

THOUSANDS OF INVESTORS HELP FUEL AMERICA'S WORKSHOP

PANHANDLE EASTERN Pipe Line Company now supplies natural gas in a volume equivalent to more than 12 million tons of coal annually to nearly seven million persons and hundreds of productive industries in Kansas, Missouri, Illinois, Indiana, Ohio and Michigan, the central workshop of America, and in the Province of Ontario. To serve this dynamic area, Panhandle Eastern, with its subsidiary Trunkline Gas Company, increased the sales capacity of its system by more than 55% in 1951 in a program involving capital expendi-

tures exceeding \$125 million.

Thousands of investors possessing confidence in this Company and in its future have invested their savings over the years to help finance this essential and expanding service.

So long as this and other gas companies are allowed to earn a fair rate of return and to charge just and reasonable prices for services and products delivered, they will continue to be able to provide fuel for the industries and homes of the nation.

PANHANDLE EASTERN PIPE LINE COMPANY



PRODUCER, LONG DISTANCE TRANSPORTER AND SUPPLIER OF NATURAL GAS TO UTILITIES AND INDUSTRIES IN THE INDUSTRIAL HEART OF AMERICA

How Much Responsibility Does Management Have for the Price Level of Its Company's Stock?

NORVIN R. GREENE

OFTEN SECURITY ANALYSTS hear corporation presidents disclaim all interest in the market price of their stocks. The statements seem to these presidents to imply virtue and to demand approval if not applause from analysts and stockholders.

Let us examine their contentions before we agree to applaud. First, let us understand clearly that most presidents do sincerely believe in the future of their companies and work hard toward building their corporation's sales, earnings, and assets. In effect they say: We will build up the business, but, if we do that, the company stock will take care of itself.

Second, can we agree that it is in the interest of stockholders generally that, if the sale of one's stock becomes necessary, it is desirable that there be obtainable a price approaching fair appraisal value relative to other stocks? I believe that merely to ask the question is to answer it in the affirmative. Then what is required to produce the result—a relatively fair market price, without serious distortion of undervaluation or overvaluation.

NO CERTAIN CURE FOR PRICE DISTORTION

It is obvious that there is no certain cure for each and every case of radical price distortion. The rosy hopes and gloomy forebodings of groups of human beings will perhaps always find expression in extreme prices for individual stocks, groups of stocks, or, as in 1929, for almost the entire stock market.

MANAGEMENT NOT SOLELY RESPONSIBLE

Since management cannot be held solely responsible for price movements of its own stock, how much can the analyst or stockholder expect management to do? Cannot management be expected to devote the time and money required for an adequate program of stockholder relations, to inform stockholders and investors fully of the facts about the company? Some corporations have their own stock-

holder relations department headed by a first-line executive. That can be effective. My opinion, based on observations, is that in most instances it is more effective to employ the services of an independent stockholder relations expert. A competent expert divorced from management can be given access to all pertinent information management has, and in addition he can have the investing public's best interest as his primary responsibility. A company officer-employee may find this attitude difficult to assume. In fact there lies the danger. For the corporation employee to act as the investor's protector requires playing a dual role. A servant can serve two masters, but are there not times when the best interests of one must come first?

GOOD STOCKHOLDER RELATIONS PROGRAM

What constitutes a good stockholder relations program? The detailed program will be left to the expert who will adopt one suitable to a particular business. His constant objective will be to inform the stockholder, the financial community, and investors fully about the company, its business, financial position, earnings, dividend outlook, and management philosophy. Perhaps in brief his job may be summed up as a portrayal to investors of company personality. Full information skillfully and widely disseminated through a variety of means will tend to create for the company's stock a relatively fair market price. Absence of such information can be helpful to speculators who wish to distort market price for individual gain. Unfounded rumors thrive on absence of fact and often induce unjustified emotional selling or buying waves in a particular stock. Or absence of information may merely create lack of investor interest in a thoroughly sound company, and therefore a low market price incompatible with the stock's true value.

DIFFERENCE IN MARKET PRICE

How much difference in market price can arise from failure to achieve good stockholder relations (perhaps in-

Table 1. Balance Sheet Features
February 28, 1952

	Company X	Company Y
Debt	\$2,500,000	\$252,904
Common shares	811,775 (one class)	931,000 (Class A, 415,500) (Class B, 415,500)
Cash & Government bonds	\$5,077,225	\$5,292,757
Ratio CA to CL	2.50 to 1	3.1 to 1
Working capital, per share	\$9.28 (after deducting debt)	\$13.70
Assets, book value, per share	16.65	18.65
Market price for stock, per share	24 3/4	13 1/4

Table 2. Sales, Earnings, and Dividends^a

Year	Company X		Dividends per Share, Calendar Yr.	Company Y		Dividends per Share, Calendar Yr.
	Year Ending Feb. 28	Net Earnings per Share		Year Ending Feb. 28	Net Earnings per Share	
	Sales			Sales		
1952	\$24,122,000	\$2.88		\$28,000,000 ^b	\$2.82	
1951	21,907,000	3.53	\$2.15	26,064,000	3.50	\$1.40
1950	19,368,000	3.34	2.85	18,942,000	1.66	1.60
1949	22,297,000	3.06	1.60	23,393,000	2.14	1.00
1948	23,279,000	2.24	1.30	35,086,000	3.96	1.60
1947	23,515,000	3.29	1.25	35,021,000	4.53	1.40
1946	14,658,000	1.06	0.60	27,003,000	2.45	0.60
Avg.	\$21,309,000	\$2.77	\$1.66	\$27,644,000	\$3.01	\$1.27

^aAdjusted for stock splits.^bLast quarter estimated.

Table 3. Miscellaneous Differences

	Company X	Company Y
Traded:	N. Y. Stock Exchange	On secondary exchange
Issues reports:	Quarterly	Semiannually
Reports:	State gross sales	Do not state gross sales

vestor relations is a more accurate term)? Here is one example which seems to measure the difference in price that good stockholder relations can make. At the time this article was written Company X stock was selling at \$24³/₄ per share, Company Y stock at \$13¹/₄ per share. Yet most of the statistics of the two companies are surprisingly similar. The two companies are competitors in the same consumer product line of business, the two leaders in their industry.

GROSS SALES OF BOTH COMPANIES AVAILABLE

Gross sales of both companies are available from reports required to be filed with the Securities & Exchange Commission, but these reports do not receive wide investor distribution.

DIVIDENDS

Dividends in the fiscal year ending February 28, 1952, were \$2.20 per share, or 75% of earnings, for Company X, but \$1.20, or 46% of earnings, for Company Y. Average dividends for six calendar years for Company X were \$1.77 per share, or 60% of earnings, but only \$1.27, or 42%, for Company Y. Managements of both companies own large amounts of each company outstanding stock. Obviously for management there are advantages for both in retaining substantial earnings to avoid paying personal income taxes at very high rates. We may conclude that Company X rates its obligations to public investors higher than Company Y. Company Y may have some other justification for the low dividend rate, but, if so, it has failed to advise its public stock owners. Dividend policy and an understanding by share owners of the reasons for the policy play an important role in stockholder relations.

Listing on the New York Stock Exchange tends to give a company additional prestige, to guarantee a required minimum of information available to investors, to bring its stock to the attention of more investors, and to permit its ownership by institutions and individuals who restrict their

investments to stocks so listed. The management of Company X seems to feel listing on the New York Stock Exchange is a matter of good investor relations.

Company X has one class of stock. Should the management dispose of most of its stock, it cannot continue to manage indefinitely, except by merit. Company Y has created two classes of stock, A with voting rights, B with no votes. By selling B stock and retaining A stock, the management, owning 51% of A stock or only 25¹/₂% of all stock, could prevent a change of management by stockholders who might at some future time be dissatisfied with company operating results. Such an arrangement is not popular with investors nor with the Securities & Exchange Commission.

It is difficult to explain the difference in price of 24³/₄ for Company X stock and 13¹/₄ for Company Y stock on any other basis than that of investor relations.

One may argue that such a situation presents an opportunity for the analyst investor to acquire a bargain stock. It is doubtful, however, that even the sophisticated investor will be satisfied to continue to see his investment sell at a distorted price.

USED AS MEASURE OF VALUE

That this wide disparity in market price can exist between two stocks of somewhat comparable merit may be used as a measure of the value to stockholders of a program of investor relations. Management alone can institute and, with or without the aid of an investor relations expert, carry out such a program. Is not management responsible for the price at which its company's stock sells, at least to the extent that such a price depends on fully and consistently informing share owners, the financial community, and investors generally about its company? Is not management (insofar as it influences the company's board of directors) also responsible to the extent that its dividend and listing policies meet standards consonant with the public investors' needs and best interests?

The Privilege Dividend Tax in Wisconsin

WALTER J. KOHLER, JR.

IN 1951 THE WISCONSIN LEGISLATURE repealed the state's 3% privilege dividend tax and provided that henceforth dividends would be subject to the normal income tax, which applies to other earnings. Thus the unique Wisconsin tax, which had existed since 1935, was brought to an end after seventeen years, during which it was subjected to every conceivable court test and interpretation.

HISTORY BACK TO 1911

The history of the privilege dividend tax extends back, however, beyond its original enactment, back to the first Wisconsin income tax law enacted in 1911. Chapter 658, Laws of 1911, in establishing the tax, specifically exempted dividends declared on the Wisconsin earnings of corporations from the application of the act:

Dividends or incomes received by any person from stocks, or interest in any firm, copartnership, corporation, joint stock company or association, the income of which shall have been assessed under the provisions of this act; provided, said firm, copartnership, corporation, joint stock company or association report at the time of assessment the name and address of each such person owning stock or interest in the same and the amount of dividends or income paid such person during the assessment year.

According to the report of the committee appointed by the 1909 Legislature to investigate the subject of an income tax and to report a bill on the subject, the dividend exemption feature of the bill was to avoid double taxation. "Double taxation is prevented," the committee stated, "by permitting the individual taxpayer to deduct from his income dividends or gains from corporations or associations already taxed." At that time, apparently, the prevailing opinion was that to tax corporate earnings and dividends paid out of those earnings would constitute an injustice. It is interesting to note that neither the committee report nor newspaper comment of the period indicated that there existed any controversy over this particular provision of the bill.

FORESHADOWED BY 1931-32 BILL

Although the privilege dividend tax was not enacted until 1935, it was foreshadowed by a bill passed in the Special Session of 1931-32, Chapter 29, which, in order to provide revenue for relief, levied an emergency income tax in addition to the normal income tax. Unlike the normal tax, however, the surtax was to apply to dividends received by persons other than corporations.

Proposals had been made throughout the years calling for the taxation of dividends, but it was not until the severity of the depression necessitated additional revenue that the privilege dividend tax was passed. It was argued in the 1931 session that "an individual should pay a tax on his income from whatever source derived." It was claimed

that many persons with large incomes were paying little or no taxes. The fact that some \$42 million in dividends was not being taxed, coupled with the burden on property taxes, depression condition, and the need for revenue, led to the enactment of Chapter 552, Laws of 1935. The pertinent sections of the latter are as follows:

(1) For the privilege of declaring and receiving dividends, out of income derived from property located and business transacted in this state, there is hereby imposed a tax equal to two and one-half per centum of the amount of such dividends declared and paid by all corporations. . . . Such tax shall be deducted and withheld from such dividends.

From its inception the privilege dividend tax was labeled an emergency tax and was re-enacted at each session of the Legislature for additional two-year periods. The tax was increased from 2½ to 3% by Chapter 198, Laws of 1939. To the provision exempting from the tax dividends of corporations whose business consists of the receipt of dividends already so taxed, Chapter 368 of the same year added the further exemption of dividends paid by a subsidiary corporation to a parent corporation.

OBJECT OF EXTENSIVE LITIGATION

Throughout its seventeen-year history the privilege dividend tax was the object of extensive litigation, cases involving its constitutionality reaching both the Wisconsin and the U. S. Supreme Courts. Perhaps a brief summary of the outstanding cases will indicate the problems involved in interpreting the nature and purpose of the tax. Of the several cases of particular significance, the first was *State ex rel. Froedtert Grain and Malting Co., Inc., v. Tax Commission*, 221 Wis. 225. The plaintiff contended that the tax impaired the obligation of contracts, discriminated against foreign stockholders, and could not be called a privilege tax because the privilege was nonexistent. In upholding the constitutionality of the tax, the Wisconsin Supreme Court defined the tax as a privilege or excise tax on the transfer of earnings and held such property a legitimate object of taxation.

HELD INAPPLICABLE TO FOREIGN CORPORATIONS

In 1940, however, the Court held the privilege dividend tax law inapplicable to foreign corporations (*J. G. Penney Co. v. Tax Commission*, 233 Wis. 286). The Wisconsin Tax Commission had arrived at the amount of the tax to be paid by a foreign corporation by determining what proportion of the corporation's income had been earned in Wisconsin and then by taxing a comparable proportion of the total declared dividend. The plaintiff had argued that the tax was actually a tax against the stockholder, not against the corporation, and that the state could not tax out-of-state residents for dividends received from out-of-state corporations.

The Penney Case was carried to the U. S. Supreme Court,

where the tax was sustained as an income tax (*State of Wisconsin Elmer E. Barlow, etc. v. J. C. Penney Co.*, 311 U. S. 435). In upholding the constitutionality of Wisconsin's privilege dividend tax, Justice Frankfurter, speaking for the Court, declared that the formula used by the Commission was the same as that used in determining the normal income tax levied against foreign corporations. Furthermore, he described the tax as being actually another tax on corporate income.

STATE SUPREME COURT DISAGREED

The State Supreme Court disagreed with this description of the tax and reiterated in later cases that the tax was not an income tax but a privilege tax. The distinction was important, since the state cannot tax the income of citizens of other states. These cases indicate some of the questions that arose concerning the law but represent only a partial list of the provisions that were eventually submitted to judicial scrutiny.

QUESTION OF REPEAL

When the question of the repeal of the privilege dividend tax came to the fore in 1950, the opposition to the tax was of a very different nature from the original objec-

tions. It was not objected to on the grounds that it constituted double taxation, that it unfairly taxed foreign stockholders, or that it drove business away from Wisconsin, but rather on the premise that the flat rate of 3% enabled large stockholders to pay much lower taxes than they would if dividends were taxed at the same rate as their normal income. This was declared to be contrary to the principle of ability to pay.

TWO ALTERNATIVES CONSIDERED

Two major alternatives were considered by the Wisconsin Legislature in 1951. One bill proposed to repeal the tax and remove dividends from the exempt list under the normal income tax. The other bill proposed to retain the privilege dividend tax to tax dividends as part of normal income, and to allow as offset against the normal tax the amount of privilege taxes paid. Repeal of the tax would mean an approximate net loss to the state of \$600,000 in revenue. The second bill was designed to prevent this loss. In the final version, however, the first bill prevailed. Chapter 394, Laws of 1951, repealed the privilege dividend tax by extending it only until January 1, 1952, and provided for the taxation of dividends as part of normal income after January 1952.

Bourne & Co.

INCORPORATED

Printers in New York since 1775

REGISTRATION STATEMENTS

FINANCIAL STATEMENTS

PROSPECTUSES

ANNUAL REPORTS

PROXY MATERIAL

163 FRONT STREET, NEW YORK

Complete Night and Day Service

Analyzing airline securities? Read

AIR TRANSPORTATION MANAGEMENT

ITS PRACTICES AND POLICIES

By JOSEPH NICHOLSON, Air Transportation Consultant

The Wall Street Journal Says:

"... a thorough, informative book on air transport... Financial angles are much more fully covered than in any recent similar work, making Mr. Nicholson's book especially useful to investment analysts."



Unique in its field, this book gives you the "whys" involved in the costs of airline operation.

An expert with 26 years' intimate concern with airlines, Mr. Nicholson writes the objective treatment of policy which enables you to grasp its implications on day-to-day operations and on long term profits and losses.

1951

446 pages

\$6.50

JOHN WILEY & SONS, Inc.

440 FOURTH AVENUE

NEW YORK 16, N. Y.

There's Life in Them

SHELBY CULLOM DAVIS

HAVE YOU NOTICED some rather self-satisfied investors in the financial community recently with twinkles in their eyes, songs in their hearts, and that quiet confidence born of success? Not those squatting on Texas Pacific Land or aboard Northern Pacific—an even more select and erudite group with, oddly enough, no oil on their balance sheets but plenty of reserves.

FINANCIAL WIZARDS OF THE '50's

Who are these financial wizards of the '50's? Generally they are modest, even recondite, fellows, with a penchant for pencil pushing rather than derrick and rig. But they are gamblers too, betting on the greatest race in history. We do not mean the human race—but simply that mankind will live longer! They are the investors in life insurance company shares. And, though there may not be oil on their balance sheets, there's plenty of gold in "them thar reserves."

Happy indeed has been the fate of the life insurance share holder these past several years. While he has lan-

guished on current return, he has fattened on capital gain. Currently Lincoln National yields only about 0.66% on its \$1.00 annual dividend, but in a little more than two years it has trebled in value. One ingenious high tax bracket share holder of our acquaintance is in fact "eating his stock"—shaving his holdings each year for living expenses at the 26% tax rate and using a small portion of the capital gain as current income. So far this has been more satisfactory than a public utility, for example, yielding a solid 6%—but before 80% taxes. It is a good method of cutting one's taxes by two thirds—as long as the capital gains hold.

HEALTHY AND LONGER-LIVED AMERICA

In a way it is odd that life companies should be enjoying a vogue when we may be on the threshold of Armageddon. Yet the bulls on the human race and its longevity have strong allies too. Medical science, Sloane-Kettering, Heart Foundation, the doctors of America, the drug companies and chemists working on the new drugs, the free-spending

Table 1. 30 Leading U. S. Stock Life Insurance Companies
Figures in Millions of Dollars

Company	Growth of Capital & Surplus					Growth of Capital, Surplus & Voluntary Reserves		% Gain 1947-51
	1947	1948	1949	1950	1951	1947	1951	
Aetna Life	67.4	73.2	81.0	88.4	95.3	165.3	221.6	34
Colonial	1.5	1.5	1.6	1.8	2.0	1.7	2.3	65
Columbian	8.4	8.5	8.3	9.8	9.9	8.3	11.7	33
Commonwealth	4.0	4.1	4.5	5.5	6.2	5.0	8.2	64
Connecticut General	45.2	50.6	58.2	65.3	71.9	56.2	93.6	66
Continental Assurance	9.0	11.7	14.1	16.8	18.7	10.2	21.5	110
Franklin	7.0	8.0	9.0	10.0	12.0	7.3	13.3	82
Gulf	2.9	5.1	7.0	8.8	10.1	8.1	16.2	100
Great West	15.4	16.0	17.6	20.2	21.4	15.4	21.4	39
Jefferson Standard	23.5	26.2	29.0	32.5	36.0	24.3	45.2	82
Kansas City	10.5	11.2	12.0	13.9	15.8	10.5	15.8	50
Liberty National	5.6	6.6	7.7	8.6	10.2	6.1	10.7	74
Life & Casualty	14.5	16.4	19.2	21.9	25.0	14.5	25.0	72
Life of Virginia	22.0	22.9	26.3	28.7	29.9	23.2	29.9	29
Lincoln National	28.2	32.7	39.7	48.1	51.0	48.4	112.7	133
Monarch	3.7	4.2	4.8	5.5	6.2	3.9	6.2	63
Monumental	10.8	11.8	13.1	13.8	15.1	10.8	15.1	40
National Life	26.2	28.8	31.3	36.2	41.2	26.2	43.5	67
Northwestern National	10.2	10.6	11.5	11.9	12.1	10.2	13.1	28
Occidental	13.2	16.2	21.9	26.4	29.0	14.9	35.8	140
Paul Revere	8.8	10.9	14.0	15.5	16.7	10.0	18.8	88
Philadelphia	1.0	1.1	1.3	1.5	1.9	1.0	1.9	90
Reliance	12.0	13.0	14.4	15.3	16.3	13.4	22.3	66
Southland	2.7	3.1	3.8	4.4	5.4	3.4	6.2	82
Southwestern	16.5	17.5	18.8	20.9	23.0	16.5	23.0	40
Sun (Canada)	91.4	95.8	100.3	105.4	110.5	101.3	112.9	11
Travelers	126.6	138.3	151.9	160.0	165.6	196.0	239.9	22
Volunteer	2.6	2.7	3.2	3.6	3.9	2.5	4.0	60
Washington National	16.0	19.4	22.7	26.8	31.1	16.5	32.1	94
West Coast	2.3	2.7	3.1	3.4	3.9	2.4	4.1	71

Table 2. Growth of Capital, Surplus and Voluntary Reserves
1947-51

Top Ten Life Companies		Bottom Ten Life Companies	
Occidental	140%	Sun (Canada)	11%
Lincoln National	133	Travelers	22
Continental Assurance	110	Northwestern National	28
Gulf	100	Life of Virginia	29
Washington National	94	Columbian	33
Philadelphia	90	Aetna Life	34
Paul Revere	88	Great West	39
Franklin	82	Monumental	40
Jefferson Standard	82	Southwestern	40
Southland	82	Kansas City	50

New Fair Deals with their higher national income and consequent better-balanced diets, the health and hospitalization plans such as Blue Cross—all these and more are making for a healthy America and longer-lived Americans. And in the opposite corner is Stalin, just as was Hitler, Kaiser Bill, and Napoleon—and will be in 2000 perhaps Fuey-Ching Chang Chung (the 21st century despot)—for history, alas, does repeat. Of course, Stalin, with science's aid, has weapons Napoleon did not even dream of—and it is probably this factor, coupled with low yield, that causes life company shares still to sell far below their worth from the standpoint of either earning power or asset value. Psychologically they should be beneficiaries of any stabilization of world power as we enter Hiroshima plus 8.

In the same corner with Stalin, perhaps as his towel handler or water boy and clearly of secondary importance, is a wraith, pale and scarcely visible. "Alas, poor Keynes, we knew him well." It is the ghost of the brilliant English lord who cheapened money so greatly as to kindle the fires of worldwide inflation so greatly as to awaken a demand that these be quenched—by a reversal of his policies, and dearer money. Keynes and his American counterparts, who hit the life companies squarely in their collective solar plexus in the fifteen years 1932-47 by, in effect, replacing their 5's with 3's or Government 2½'s, seem for the time being to have lost their influence before the twins, boom and inflation. As we pointed out in "Its Only a Matter of Money" in this JOURNAL three years ago, the anxiety over meeting interest requirements is passing for life companies. Stalin is the only real antagonist.

Meanwhile the interest in life companies continues. The

interest is not broad. On the contrary it is narrow, probably because of two factors: (1) the belief that life companies are "too difficult" to understand, and (2) a feeling that, because of the rise in life shares, the "boat" has already been missed. We do not believe either of these reasons is justified. We also consider life shares still highly attractive for the long pull.

ANNUAL STATEMENTS

Essential for a complete understanding of life companies are their annual statements as filed with the insurance commissioners of their respective states. And yet these are not necessary to gain an indication of the trend of profits which are reflected in the movements of surplus and voluntary reserves. There is little to be gained by making the job seem more difficult than it actually is. In the end it is the accretions to surplus that count. Without more ado, therefore, we list in the first five columns of Table 1 the figures for capital and surplus for the five years 1947-51 for 30 leading U. S. stock life insurance companies as they appear in the manual *Best's Life Insurance Reports* published by the well-known insurance publication firm of Alfred M. Best Company, 75 Fulton Street, New York. There is certainly no mystery to these figures, and their symphony of progress is a convincing success story. At the same time it must be admitted these figures err on the conservative side because they take no account of voluntary additions to reserves. The final three columns show the growth of capital, surplus and voluntary reserves, for 1947 and 1951, respectively, and also the percentage gains between these years.

Table 3. Gain in Insurance in Force
1947-51

Top Ten Companies		Bottom Ten Companies	
Franklin	110%	Kansas City	22%
Continental Assurance	109	Reliance	24
Occidental	107	Sun	25
Southland	107*	Monumental	25
Monarch	92	Life & Casualty	26
Philadelphia	84	Life of Virginia	35
Connecticut General	76	Colonial	35
Liberty National	63	Columbian	36
National Life	61	Jefferson Standard	39
Washington National	57	Southwestern	39
Great West	57	Travelers	39

*31% excluding in force acquired through purchased companies.

Table 4. Gain in Investment Income, Basis Points
1947-51

Top Ten Companies		Bottom Ten Companies	
Paul Revere	93	Gulf	-16
Liberty National	88	Great West	- 1
Life & Casualty	72	Franklin	4
Southland	61	Reliance	9
Monumental	60	Columbian	14
Kansas City	55	West Coast	18
Lincoln National	51	Aetna Life	22
Southwestern	39	Monarch	22
Philadelphia	37	Continental	23
Occidental	36	National Life	24
		Connecticut General	24

TOP TEN COMPANIES

It is of interest to note which companies made the greatest gains during 1947-51. The top ten companies are listed in Table 2. Although no consideration has been given to dividends paid, the stockholder wages of life companies traditionally wax exceedingly low, so that it is believed the end result would remain essentially the same.

Of these top ten only five companies enjoy the semblance of a public market: Lincoln National, Continental Assurance, Philadelphia Life, Franklin, and Jefferson Standard. Certain of these issues can also only be obtained with a "hope and a prayer," and a textbook market in the sense of willing sellers dealing with willing buyers is frequently lacking. To get hold of Occidental, Gulf, Washington National, Paul Revere, or Southland the best method is probably to effect some sort of alliance with the Gianinni, Phillips, Kendall, Harrington, or Carpenter families—although it must be gainsaid that a "piece" of Occidental can be purchased in the open market through Transamerica.

We also list in Table 2 the bottom ten, those life companies whose capital and surplus and voluntary reserves increased the least in 1947-51. Though we shall not explain how it happens that each company is in this list, a word or two of explanation is in order. Sun Life of Canada, for example, is largely a participating company, no less than 93% of its insurance in force being participating, from which stockholders derive only a modest 2½% of earnings. Consequently surplus is bound to rise less. Furthermore the annual statements of Canadian companies as filed with the provincial insurance departments do not follow the American practice of segregating voluntary and

statutory reserves, which causes an understatement of surplus. In the case of Travelers and Aetna Life no account has been taken of the substantial rise in unearned premium reserves during this period. Adjusted for the equity in the increase in the unearned premium reserves, Travelers' increase in capital, surplus and voluntary reserves, 1947-51 becomes 34% and Aetna Life's 40%. Northwestern National Life has been retarded by two factors: It is 56% participating (although the nonpart or stock branch has been growing at a far more rapid rate), and its investment policies have been the most conservative and have yielded the third lowest return among the 30 companies surveyed. And a general comment is in order. While a growth of 40%, for example, is low in comparison with Occidental's 140% or Lincoln's 133%, it is still an average of 10% per annum for the years 1947-51 after dividends; and this relatively safe form of capital growth surely has great attraction.

THIS MATTER OF RESERVES

Nor do these figures tell the complete story—and here we must become slightly technical. There are ways and ways of setting up reserves to meet the inevitable death claims which come to all men. One method, the most conservative, is to take a certain equal amount of the premium which the assured pays each year and place it in reserve, a kind of "death fund" which with its interest earnings compounded, will pay the death claim when it occurs. This is the net level premium method of setting up reserves. The other most widely used method is the modified preliminary term, sometimes also called the New Jersey Standard or Illinois Standard. This differs from the net level

Table 5. Earned All Assets, Rate
1951

Top Ten Companies		Bottom Ten Companies	
Jefferson Standard	4.44%	Commonwealth	2.86%
Gulf	4.16	Monarch	2.88
Occidental	3.88	Northwest National	2.94
Southland	3.74	National Life	3.06
Volunteer	3.70	Colonial	3.08
Liberty National	3.57	Reliance	3.08
Southwestern	3.55	Monumental	3.10
Great West	3.52	Aetna Life	3.17
Lincoln National	3.44	Washington National	3.17
Paul Revere	3.44	Franklin	3.19

premium method only in that it builds up its reserve or "death fund" at a slower rate. For example, during the first year of a policy's life no part of the premium goes into the reserve at all—on the theory (sometimes but not often mistaken) that an assured will not die just after taking out insurance. Many actuaries believe the modified preliminary term method of building reserves is more realistic and measures the need more fairly than the net level premium method. On the other hand, it is undeniable that the latter method is more conservative and results in an understatement of surplus. On this point Best's *Life Insurance Reports*, 1952 edition, states on page 27:

However, in the average company a change from the Net Level Premium $3\frac{1}{2}\%$ to Modified Preliminary Term $3\frac{1}{2}\%$ valuation would approximately double the surplus; and similarly a change from Net Level 3% reserves to Modified Preliminary Term $3\frac{1}{2}\%$ reserves would treble the surplus.

This latter point has to do with interest assumptions of reserve earnings. It is obvious that a larger block of reserves will be necessary to meet death claims if the interest assumption (compounded) is $2\frac{1}{2}\%$, for example, than if the interest assumption is $3\frac{1}{2}\%$.

IMPORTANT TO UNDERSTAND METHODS

It is important to understand the various methods of setting up reserves for this reason. Instead of building up voluntary reserves to offset the declining earning power of money a few years ago, a company might elect to write down the interest assumption on its reserves from a $3\frac{1}{2}\%$ to a 3% basis. Thus the funds would not show up in voluntary reserves or surplus, but the earning power of the company would be increased. A simple calculation should suffice to indicate how the different methods of setting up reserves affect surplus. On a 20-payment life policy issued at age 35, the reserve calculated on a net level premium basis at the end of the seventh year would be \$153.42; on the modified preliminary term, \$138.44 (both assuming $3\frac{1}{2}\%$ interest). The former policy therefore has more than 10% more reserve. Since in a life company capital and surplus frequently amount to approximately 10% of reserves, it follows that, if this 10% more reserve had been lodged in surplus instead, surplus would be doubled. These refinements in methods of calculation admittedly are drawbacks to complete understanding of life companies. Yet they do not detract from the essential story of growth which can be seen in the cold figures of capital and sur-

plus. It must be remembered that the figures generally err on the conservative side, that companies are strengthening their reserves rather than vice-versa. Any indication (and not to be found in the 30 companies surveyed) that a company is weakening its reserve policy by going from a net level premium to a modified preliminary term basis with interest assumed from a 3% to a $3\frac{1}{2}\%$ basis would be a danger signal, a little akin to the old practice of "salting a mine" for the uninitiated.

OTHER GROWTH FACTORS

Growth in insurance in force is significant, and the top ten companies are listed in Table 3. Table 3 also shows the ten companies whose insurance in force gained the least in 1947-51.

Tables 4 and 5 relate to investment income, the top ten companies in improvement in investment income in 1947-51 and the top ten in rate earned on assets in 1951. Also listed are the ten companies showing the least improvement in investment income in 1947-51 and earning the least on all assets in 1951.

A great deal more could be written about the life companies. It is important to know how much of their business is participating in relation to the whole, because, although participating business is useful to stock companies in that it shoulders some of the expenses, it usually does not contribute to profits. It is also significant how much annuity business a company has on its books—and at what interest assumptions. For the annuity business is the opposite side of the life insurance coin—longevity hurts rather than helps. In the end it is growth, profitable growth, that counts; and one does not have to be an actuary to see that the life companies have had plenty of this vital nourishment.

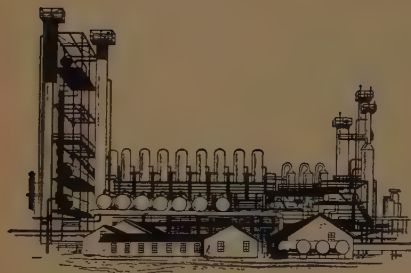
And, if you throw up your hands at the problem of reserves, the "exact" computations of earning power or asset value, don't be overly alarmed. If necessary, you can always walk to your nearest actuary. And, if he succeeds in making a complex problem perhaps a little complexer, recall that old saying the actuaries even tell on themselves: "You don't have to be crazy to be an actuary, but it helps!"

The main thing to remember is that the life companies are "in gear"—mortality-wise and interest-wise. And, it should be added, market-wise. There is (has been, and—we firmly believe—will be) plenty of life in them. While there's life in your portfolio, there's hope.

* * *

1812—May 12 . . . Stephen Girard opened his banking house. "It continued in successful operation until his death in 1831. . . . Then as the Girard Bank, in 1832 a state charter was secured." In 1865 it entered the National Banking System. It had opened with a capital of \$1,200,000.

what's new at MATHIESON



Pacing the chemical industry,

Mathieson's program of expansion and diversification is indicative of future progress. In the past twelve months Mathieson's rapid progress has been marked by the following important developments:

Merger of the 90 year old E. R. Squibb & Sons into Mathieson Chemical Corporation, thus establishing Mathieson in the field of pharmaceuticals, cosmetics and ethical drugs.

Further development of Mathieson's hydrazine, noted originally as a rocket fuel, reveals its usefulness as a basic component of new TB drugs.

Acquisition of Tovrea's fertilizer division at Phoenix, Arizona, broadens Mathieson's distribution in im-

portant agricultural areas of the South West and Far West.

Establishment of new electrolytic caustic-chlorine capacity at Saltville, Virginia, and a new plant at McIntosh, Alabama, gives Mathieson added facilities for serving manufacturers of paper, rayon, textiles and other consumers.

Reactivation of the Army Ordnance plant at Morgantown, West Virginia, the second largest synthetic nitrogen plant in the world, adds greatly to Mathieson's production of ammonia, together with a new product—methanol.

Production of ethylene derivatives at the new Doe Run, Kentucky plant establishes Mathieson as an important factor in the field of petrochemicals.

For 60 years one of America's prime chemical producers, Mathieson today lists petrochemicals, organics, agricultural chemicals and pharmaceuticals . . . growth chemicals of great potential . . . with its output of basic inorganic chemicals. Future development at Mathieson will follow a similar pattern—actively directed toward meeting the needs of industry, agriculture and public health.

INCOME STATEMENT FOR NINE MONTHS ENDED SEPTEMBER 30TH

	1952	1951
Net Sales	\$94,314,201	\$69,911,087
Cost of Sales	71,193,764	47,466,183
Total Earnings from Operations	\$23,120,437	\$22,444,904
Provision for Depreciation	5,718,595	3,956,867
Net Earnings from Operations	\$17,401,842	\$18,488,037
Income Credits	384,516	359,830
	\$17,786,358	\$18,847,867
Income Charges	1,351,610	600,845
Total Income	\$16,434,748	\$18,247,022
*Provision for Federal Income and Excess Profits Taxes	7,555,000	10,490,000
Net Income Transferred to Surplus	\$ 8,879,748	\$ 7,757,022
Earnings Per Share on the 3,142,754 Shares of Common		
Stock Outstanding September 30, 1952	\$2.64	\$2.43
Dividends Paid Per Share	1.50	1.20

*Provision for Federal Taxes Reflects Deductions Taken for Depletion Allowances and Certified Accelerated Amortization.

Mathieson
CHEMICALS

MATHIESON CHEMICAL CORPORATION

BALTIMORE 3, MARYLAND

The Chemical Industry Looks South

FRANK J. SODAY

IN THE YEARS SINCE THE GREAT DEPRESSION, the land of cotton has watched the rise of the synthetic fiber industry. Though it presented a challenge to one of Dixie's chief commodities—cotton—and to its important textile industry, the South has been confident that this new industry would develop mainly within its borders. This confidence has not been misplaced, for today the synthetic fiber industry is rooted firmly in the South and promises to become one of its most important industrial assets.

A hasty glance at southern history during the past century will indicate the basic changes in economy directly responsible for the development of this promising new industry.

AGRICULTURE AND SOUTH SYNONYMOUS

It has long been axiomatic that the terms agriculture and the South are practically synonymous. Blessed with good earth, a fairly abundant rainfall, and a long growing season, the early settlers rightly regarded the South as only slightly less desirable than the Garden of Eden. In this land of lush growth, with a culture based on the fruits of the apparently inexhaustible soil, the South was content to let industry develop almost exclusively in the North.

With continued cropping, however, it became increasingly difficult to maintain the early high level of production, and the general standard of living declined. Land that once had maintained large numbers of families in luxury now produced insufficient crops to meet the minimum requirements of their descendants. This challenge was met to some extent by abandoning the older plantations and moving to new lands, but it was apparent that this could offer only temporary relief. Then came the War between the States, with its almost complete destruction of southern economy.

BROADEN BASE OF PRODUCTION

During the reconstruction period, it became increasingly apparent that stable prosperity could be achieved only by broadening the base of southern production. Agriculture alone was not enough, for the northern industrialist controlled the market and reaped the major share of the profits on both the purchase of southern produce and the sale of the manufactured goods derived from such produce. In addition, the southern consumer paid two freight bills: one to haul the raw materials North and the other to transport the finished article South. Diversification in both agriculture and industry held the key to the future development of the South.

As cotton was the South's most important product, and the cornerstone of its economic structure, it was logical that it should be selected as the raw material for its first large venture in industry. For generations, cotton had been exported to the New England States for spinning, weaving, and conversion into finished cloth. At the turn of the cen-

tury, New England had 70% of the industry's spindles, but the shift to the South had started in earnest. Today 77% of the spindles are located in the land of cotton.

Paralleling this development, but at a somewhat later date, was the rise of the chemical industry in the South. Born in the depression years of the early 1930's, and rapidly attaining its majority during the eventful days of the late World War, the southern chemical industry is rapidly overtaking its northern brother. Over 50% of the recently announced expansions in chemical manufacturing facilities will be located in the South.

TWO DEVELOPMENTS IMPORTANT

These two developments are of the utmost importance in determining the location of the new synthetic fiber industry. Synthetic fibers may be regarded as the offspring of the union of the chemical and textile industries, and the vigorous growth of these two industries in the South during the past few years made it inevitable that the new synthetic fiber industry would be located in the same region. Synthetic fibers start out in life as chemicals, which are first converted to giant molecules or polymers and then spun to form fibers. The types of chemicals required are readily available from the new chemical plants springing up in the South. The fibers, in turn, then are processed to form yarn and finished goods in the textile mills centered in the same region. The entire process—from chemicals to polymers, to fibers, and finished goods—can be carried out in one region. Nowhere else in the country are such facilities available in such closely integrated form.

MANY FACTORS MUST BE CONSIDERED

But this is not the whole story, as many other factors must be taken into consideration in selecting a region for the development of a new industry. Land of suitable types must be available for plant sites, people are required to manage and operate the new installation, raw materials must be both cheap and abundant in nature, water of good quality is required for process use and for cooling purposes, adequate transportation facilities must be available, power is needed in large amounts and at reasonable rates, certain financial facilities are required, and, last but not least, markets must be close at hand. These provide the base on which modern industry is built and the South will be surveyed with these factors in mind in order to measure the contribution of each to the rapidly growing chemical industry. This survey also will point out certain weaknesses in southern economy which should be strengthened to provide for even more rapid industrial growth.

THE LAND AND THE PEOPLE

Of paramount importance in the survey of any region for industrial purposes is a study of the land, particularly from the standpoint of its natural advantages and resources,

and the people inhabiting the land. For the purpose of the present survey, the South will comprise the 13 states extending from the Potomac to the Rio Grande. This area contains 540 million acres of land, equivalent to 28% of the land area of the United States, and historically, geographically, and climatically it may be regarded as a single cultural region. With one exception—Florida—each of the states is vitally concerned with the production of one or both of the two great staple cash crops of the region—cotton and tobacco.

Of this area 43% is in forest, 30% in croplands, and 18% in pasture and range lands. Though some of the cropland is composed of top-quality soil, the majority is mediocre in quality, readily eroded under intensive cultivation practices, and greatly depleted of its plant nutrient resources. To compensate for lack of soil fertility due to erosion and long-continued cultivation, southern farmers have been purchasing 55% of all commercial fertilizers sold in the United States.

GOOD PLANT SITES

Good plant sites can be readily located in almost every section of the South. This, coupled with the desire of the people to replace their declining agricultural potential with other sources of income, has induced the Southern States to extend every possible encouragement to industry. The mild southern climate has made it possible for many industries to dispense largely or completely with the buildings required for plant operations in other sections of the country. Several of the newer chemical plants constructed in the South have been built entirely in the open, with consequent large savings in plant investment.

The South has a population of nearly 40 million, equivalent to 29% of the total population of the country. As this is remarkably close to 28½%, the South's share of the Nation's total land area, the density of population is about the same as in the remainder of the country. The population is increasing at a very rapid rate, the number of persons in the South at the present time being equivalent to the total population of the United States in 1870. The proportion of whites to Negroes is increasing at a fairly substantial rate.

POPULATION NATIVE BORN

An outstanding characteristic of southern population is that it is almost entirely native born. The 1940 Census showed that, of the 11½ million foreign-born whites in the United States, less than ½ million were located in the South. Stated another way, only 1% of the total southern population is foreign born.

The South's greatest resource is its people. The migration of industry south at an accelerating rate during the past ten years has been due in no small measure to the ample supply of intelligent, willing, and capable workers available for the management and operation of new industrial enterprises. And nowhere has this been more pronounced than in the chemical industry, where a high standard of skill and competence is required for successful operations.

In this connection, it is well to point out that the opinion once prevalent that skilled industrial workers are available only in areas having a long industrial history has been

proven to be completely erroneous. During the war years it was found that chemical plants operated in the South by native labor almost invariably had better operating records than similar plants constructed in other sections of the country. Southern labor has proven its ability to operate the most intricate industrial processes and to produce at a rate equal to that of any other section of the country.

MINERAL RESOURCES

Turning next to minerals, the chemical industry finds a very encouraging picture. The South has a wide variety of minerals, and many are available in very substantial amounts. The total value of all minerals produced in the South in 1950 was \$4½ billion, or 44% of the Nation's total. More than half were produced in Texas, and petroleum accounted for 78% (\$3½ billion) of the total. Coal and petroleum together amounted to 90% (\$4 billion) of the over-all mineral production.

PETROLEUM

The total southern production of petroleum, its most important mineral resource, was 11⅓ billion barrels, equivalent to 66% of the Nation's total. Present proven reserves of oil in the United States amount to approximately 25 billion barrels, of which the South has about 70%.

On the basis of the present rate of consumption, which has been rising steadily and rapidly, present proven reserves of oil are being discovered, and for the past twenty years proven reserves have increased steadily, despite rapidly rising consumption.

NATURAL GAS

The production of natural gas in the South amounts to 3½ trillion cubic feet, 73% of the total production in the country. In dollar value, it is the South's second most important mineral. Known reserves will last for thirty years at present rates of consumption, and approximately 80% of the reserves are located in the South.

As for petroleum and natural gas, several factors are of vital interest to the South. In the first place, there has been an enormous increase in consumption in recent years, occasioned to a considerable extent by the substitution of these commodities for coal. Second, oil and gas are in-

Table 1. Sources of Income Payments in 1948
In Millions of Dollars

Source	Income	% of Total
South		
Agriculture	\$ 6,549	16.5
Manufacturing	5,994	15.1
Government	6,547	16.5
Trade & services	10,364	26.1
Other	10,194	25.7
Total	\$ 39,694	100.0
Non-South		
Agriculture	14,464	8.7
Manufacturing	40,152	24.1
Government	22,089	13.3
Trade & services	45,259	27.2
Other	44,399	26.7
Total	\$166,363	100.0

creasingly important basic raw materials for the production of many chemicals, such as synthetic rubber and the new synthetic fibers. Finally, oil and gas are of vital importance to the Southwest, which lacks coal and waterpower and would be severely handicapped if these basic sources of power should become exhausted. To put it bluntly, the Southwest would be an industrial desert without oil and gas.

COAL

Coal, the South's third most important mineral, is available in sufficient quantities to last almost indefinitely. The 1950 production was valued at slightly over one-half billion dollars, 22% of the Nation's total. The South has approximately one fifth of the coal reserves of the country.

The South has ample supplies of iron ore and produces 8% of the Nation's total. Present reserves are estimated at 2 billion tons, or nearly 40% of the reserves in the United States. It has 40% of the country's phosphate rock, and accounts for over 90% of the current production. The South has all of the Nation's reserves of bauxite and native sulfur usable under normal conditions.

Texas (53%), Louisiana (13%), Oklahoma (11%), and Kentucky (9%) account for a total of 86% of the mineral produced in the South in 1950. Petroleum and natural gas were the principal products in the first three states listed, while Kentucky's principal product was coal. The chief products in Alabama are coal and iron ore, in Virginia coal, in Florida phosphate rock, and in Mississippi petroleum and natural gas. This raw material pattern is important from the standpoint of its influence on the rapidly growing chemical industry in the South.

INFLUENCE ON CHEMICAL INDUSTRY

The availability of petroleum and natural gas, two very desirable raw materials for the production of chemicals, has had a profound influence on the development of the chemical industry in the South. Over 85% of the total petrochemical industry in this country is concentrated along the Gulf Coast within a 200-mile radius of Houston.

Despite this bright picture, however, I am compelled to end this part of the survey on a sobering note. The dependence of southern chemical industry on a continuing adequate supply of natural gas, both as a raw material and as a source of energy, cannot be overemphasized. The Southwest possesses no alternative fuel. The continuing expansion of chemical industry in the South is largely dependent on an assured supply of petroleum and natural gas hydrocarbons. The transportation of this basic raw material and source of power to other sections of the country should be conducted in full recognition of the vital role it plays in the chemical industry in the South. Without adequate supplies of natural gas as a source of fuel and power, as well as a basic raw material, much of the chemical industry in the South would disappear overnight.

WATER RESOURCES

Nature also has been kind to the South with water, a basic raw material and processing agent for virtually all chemical plant operations. The large annual rainfall in the South, coupled with a long coastline and many rivers, gives

it an abundance of water resources. The rivers are important from the standpoint of providing transportation routes, as a source of power, and the provision of the large supplies of process and other water required by many chemical plant operations.

CHEAPEST MEANS OF TRANSPORTATION

Water is still the cheapest means of transportation, and no other section of the country has such extensive facilities. Approximately 60% of the Nation's navigable waterways are located in the South. Nine of the states reach Tidewater, and five are served by the Mississippi River and its major tributaries.

5½ MILLION HORSEPOWER

The potential waterpower available in the Southern States is estimated at 5½ million horsepower, which is over a third of all of the potential waterpower east of the Rocky Mountains. The total electric output from all sources in the South in 1950 was nearly 100 billion kilowatt-hours, which represented almost a fourfold increase since 1939.

This great increase in generating capacity is due, in substantial measure, to the development of the Tennessee Valley Authority. The supply of cheap and abundant power from this source is an important asset to industry and has resulted in the location of large chemical operations in this area, particularly those having unusually high power requirements. Plants for the manufacture of elemental phosphorus and compounds derived from this basic raw material are examples.

At the same time it should be pointed out that, although the TVA has accomplished much, it has not been the dominating factor in southern economic development. Private enterprise has been very active in providing facilities for power generation. A recent news release states that the Alabama, Georgia, Gulf, and Mississippi power companies will spend \$278 million for additional generating plant facilities during the next two years.

An abundant and reliable supply of pure water is essential to many industries, and particularly so to the chemical industry. In many cases this has been a deciding factor for chemical plant location in the South. Water for transportation, power, and chemical use may be regarded as one of the South's important resources from the standpoint of chemical manufacturing operations.

FOREST RESOURCES

Forest resources are dealt with separately, as many forest products are important raw materials for the production of chemicals.

The 43% forest land of the total land area of the South, combined with an abundant rainfall and a long growing season, has made the South an important source of forest products. Lumber manufacture had a total value slightly in excess of \$2 billion in 1950, equivalent to 36% of the national income from the same source.

Southern forests provide the raw materials for the naval stores industry, with a total value of \$135 million in 1950. The two principal products, turpentine and rosin, are used as basic raw materials in many chemical industries, such as in soap and detergent manufacture. In addition, they

are desirable raw materials for chemical synthesis, such as the production of Toxaphene, the new cotton insecticide.

OTHER RESOURCES

Many other resources are of interest to the chemical industry. One of the most important is transportation.

In addition to its extensive system of water transportation, the South has 28% of the Nation's railroads and 29% of the Nation's highways, on a mileage basis. In both instances the South's proportion of transportation mileage is very close to its proportion of total land area. Every effort is made to keep these facilities in good working order, nearly one-half billion dollars being spent in 1947 for highway construction and maintenance, equivalent to 35% of the Nation's total expenditure for the same purpose.

ELECTRIC POWER

The total production of electric power in 1950, nearly 100 billion kilowatt-hours, was 24% of the Nation's total. Southern utilities in general did a total business of \$7 billion during the same year, equivalent to 21.5% of the total for the United States. Utility rates are generally cheaper in the South than in other sections of the country. This is of considerable importance to the chemical industry, which is a proportionately large user of power and other utilities.

Construction operations are adequate to take care of the needs of the area and to provide for almost any desired expansion in chemical plant facilities. Total expenditures for construction in the South in 1950 amounted to \$7 billion, equivalent to 26% of all construction operations throughout the Nation. Because of the rapid growth of the chemical industry in the South, the construction companies located in this area are highly skilled in the construction of the complex plants required for modern chemical operations.

FINANCES AND GENERAL BUSINESS OPERATIONS

A healthy financial structure is generally a reflection of a healthy business structure. This is of importance to the chemical industry owing to the relatively high construction costs for chemical plant facilities and to the rapid obsolescence of chemical plants and processes, requiring frequent alterations and replacements.

UNSATISFACTORY CONDITION

Here we encounter a somewhat unsatisfactory condition. The South's share of the total business volume of the country is substantially lower than it should be: \$140 billion out of a total of \$725 billion, or 19%. An examination of these figures shows that of the three main categories comprising business volume—raw materials, processing, and distribution—the South has more than its share of the first and less than its share of manufacturing in the second and is deficient in every item in the third category.

In financing, the total volume of business in 1950 amounted to \$4½ billion, only 16.5% of the Nation's total. Trade activities totaled \$65 billion, 18.7% of the total for the country, while the service industries contributed \$5½ billion (18.6% of the U. S. total) to southern economy.

If the South is to attain equality with the rest of the country in income and use of resources, it should possess somewhat more than 25% of the capital investment of the country throughout its entire economy, such as agriculture, industry, utilities, trade, and services. At present, it has approximately 18% of that investment, and an increase of approximately 50% would be required to raise it to the desired level. As the South receives only about 20% of the income payments of the country, it is evident that considerably more than 25% of the new investment funds of the country will be required for the next fifteen or twenty years to achieve that objective.

ENCOURAGING FEATURE

An encouraging feature of the financial picture is the fact that financial centers in other sections of the country have been more than willing to underwrite the construction of chemical plants in the South, owing to the unusually favorable potentialities for profitable operation in that area.

CHANGING PATTERN OF AGRICULTURE, INDUSTRY, AND INCOME

Next to mining, southern agriculture is the most important source of raw materials for chemical plant operations in the South. Changes in this basic activity will have a profound effect on the chemical industry, as agriculture also is a large and important market for chemical products.

CHANGED IN PAST TWO DECADES

An inspection of the available records indicates that southern agriculture has changed greatly in the past two decades in acreage, production, and cash income. On an average basis, the outstanding change was the enormous reduction (50%) in cotton acreage. Corn acreage declined substantially, and tobacco acreage was reduced by one quarter. Acreage devoted to hay, wheat, peanuts, truck crops, soybeans, and rice increased, with wheat making the largest absolute gain.

During the same period cotton production decreased by 10% and corn production by the same amount. Soybeans, citrus fruits, rice, peanuts, and wheat showed substantial gains.

Table 2. Business Volume in 1950
In Millions of Dollars

Business	United States	South	Southern %
Farming	\$ 31,933	\$ 9,136	28.6
Forestry & fishing	258	65	25.2
Mining	10,524	4,656	44.0
Raw materials	\$ 42,715	\$ 13,857	32.4
Construction	26,205	6,839	26.0
Manufacturing	219,664	36,993	16.9
Processing	\$245,869	\$ 43,832	17.9
Utilities	33,469	7,097	21.5
Finance	27,311	4,393	16.5
Trade	346,668	64,861	18.7
Services	28,683	5,331	18.6
Distribution	\$436,131	\$ 81,682	18.7
Grand total	724,715	139,371	19.2

A major trend in southern farming has been the large increase in livestock population since 1929. The value of beef cattle in the South increased 170% during this period, hogs 165%, and milk cows 100%.

Cash receipts from crops showed significant changes during the same period. Outstanding was the great decline in the receipts from cotton—from 46% to 27% of all farm marketing. Tobacco, rice, peanuts, corn, and wheat showed very large increases. Despite its decline in relative position, cotton is still king. It accounts for 44% of total crop receipts and, together with tobacco, accounts for 60% of all cash receipts from crops and 37% of the receipts from all farm marketing.

MANUFACTURING INCREASING

The South's portion of the Nation's manufacturing industry has been increasing for some time. In 1947 the region had 17.7% of the country's production workers. At the present time, the textile industry is the most important, followed by food manufacturing, industries based on petroleum and coal, and the chemical industry.

The Southern States are getting the lion's share of the new industrial facilities, except steel, under the decentralization trend of the Government's accelerated depreciation program. The South's share has been a widely diversified group of new industries, including chemicals, aluminum, gasoline products, paper, aircraft, nonferrous metals, and some steel plants. In aluminum, for example, the South will have two thirds of the new installations, or \$235 million out of a total of \$350 million. It also is getting \$254 million worth of gasoline plants out of a total award of \$487 million, and over 50% of the \$600-million chemical plant installations approved. In all other manufacturing plant awards it secured 45%.

GAINS IN INCOME

The South has made substantial gains in income during the past two decades, increasing from 47% of the non-southern average in 1929 to 65% in 1947. The source of income also has changed considerably. The proportion of income from agriculture decreased 18% since 1929, while the proportion of income from manufacturing increased by 20%. In 1929 income from agriculture was about 65% greater than income from manufacturing. At the present time, income from industry is slightly greater than income from agriculture. The South's income now is approximately 20% of the total income for the Nation.

AGRICULTURAL CHEMICALS LUCRATIVE

Despite the changes in agricultural income, the production of agricultural chemicals continues to be a lucrative field. Shrinking acreages and the increasing cost of farm labor make it imperative that maximum yields per acre be obtained. This creates a larger total market for fertilizers, insecticides, and other agricultural chemicals. At the same time, the growing southern industry provides a ready market for a large number of industrial chemicals.

More important than either of these considerations, however, is the substantial increase in southern income. This has provided the additional funds required to absorb the products resulting from industrial expansion within the

area. As a matter of fact, the South is rapidly becoming its own best customer, and southern goods and produce need no longer look elsewhere for their best market.

THE CHEMICAL INDUSTRY TURNS SOUTH

The chemical industry is so large and plays such an important part in substantially all industrial operations that accurate statistics concerning its size are difficult to obtain. It is the only industry that serves all of the 72 basic industry groups recognized by the U. S. Department of Commerce. At the present time it accounts for at least 20% of all industrial production in the United States.

Traditionally a northern industry, and for generations virtually unknown in the South, the chemical industry made its first tentative steps southward in the years immediately following the great depression. While chemical plants were being constructed in the South in ever-increasing numbers just before the war, conditions that were to shift chemical manufacturing to this area on a large scale reached a climax in the eventful days following Pearl Harbor, and decisions that were to have a profound effect on the basic economy of the South were swiftly made. Established chemical plants in the East were concentrated and offered tempting targets, room for expansion was unavailable, and the additional loads placed on transportation systems made it inadvisable to continue the traditional policy of moving southern raw materials to the Northeast for conversion to finished products. A more compelling consideration was the already established movement of chemical plants southward and the excellent operation records established by such plants.

BILLION DOLLARS' WORTH OF PLANTS

The Government, therefore, decided to allocate a substantial proportion of the required chemical manufacturing operations to the South, and a billion dollars' worth of chemical plants were built in this area in the short space of three years. Farseeing companies and individuals in the South were quick to take advantage of the opportunity presented to them, and, on the broad base provided by the Government's war plants, a large and powerful chemical empire is being rapidly established.

A clear indication of this trend is the fact that over 50% of the chemical industry's initial plant expansion for 1951, amounting to \$600 million and covered by certificates of necessity, will be located in the South. Total capital expenditures for the chemical industry in 1951 are estimated at more than \$4 billion, which is some \$800 million more than planned for expansion in the steel industry. The South undoubtedly will get a substantial share, if not a majority, of this huge outlay in chemical plant facilities.

EVERY LARGE COMPANY REPRESENTED

Practically every large chemical company in the United States, duPont, Carbide & Carbon, Allied, Monsanto, and Dow, now has one or more plants in the South. In many instances southern plant operation has proven to be so profitable that the majority of new chemical plants constructed by these companies in recent years have been placed in the South. The Southern Association of Science and Industry issued a report recently showing that about

half of the total investments and inventories of the duPont Company are now located in the South, 20 plants in 9 Southern States.

Chemical plant operations in the South provide the products required by agriculture and most of the southern industries, particularly the newer ones which have been growing rapidly. These include fissionable materials (the Oak Ridge plant in Tennessee and the \$900-million atomic energy project at Aiken, S. C.), explosives, synthetic rubber, rayon, nylon, animal and vegetable oils, and fertilizers.

PHOSPHATE

The South has the large phosphate deposits of Florida and Tennessee and the sulfur deposits of Louisiana and Texas. In cottonseed oil, gum, and naval stores, and softwood distillation the South provides nearly all the national product. Approximately 60% of the fertilizer industry is located in the South. Current expansion in petrochemicals in Texas alone amounts to several hundred million dollars. Present petrochemical plant investments in the Houston area are in excess of \$1 billion.

AMMONIA

Ammonia is an important petrochemical, particularly from the standpoint of southern agriculture, and over 50% of the country's synthetic ammonia production capacity of 2 million tons per year is in the South. Production is growing rapidly and yet has not been able to keep up with demands. The U. S. Department of Agriculture states that 600,000 tons of additional ammonia production capacity must be provided during the next two years to satisfy minimum agricultural requirements, with additional increases in synthetic ammonia capacity of 200,000 tons each year to meet the increasing food and fiber demands of a population growing at the rate of over 7,000 per day. The Southern States consume approximately 60% of all agricultural ammonia.

To meet these staggering demands, construction plans

Table 3. Business Volume of Southern Manufacturing Operation in 1950
In Millions of Dollars

Type of Manufacturing	United States	South	Southern %
Food	\$38,844	\$6,720	17.3
Tobacco	2,690	2,235	82.0
Textile	12,374	6,731	54.4
Apparel	11,298	1,352	12.0
Paper	8,716	1,708	19.6
Printing & publishing	7,424	823	11.1
Chemical	15,387	3,873	25.0
Petroleum-coal	11,728	4,290	36.6
Rubber	3,766	163	43.4
Leather	3,874	286	7.4
Lumber	5,918	2,192	27.0
Stone-clay, glass	4,950	646	13.0
Primary metals	21,090	2,192	10.4
Fabricated metals	11,621	794	6.8
Machinery	16,678	904	5.5
Transportation equipment	21,950	992	4.5
Instrument	2,635	53	2.0
Miscellaneous	4,412	139	3.2

for an additional 1 million tons of yearly ammonia production capacity have been announced. The majority of these installations will be located in the South.

SYNTHETIC RUBBER

Another important field of expansion of the southern chemical industry has been in the manufacture of synthetic rubber. This industry may also be regarded as a southern industry, as approximately 90% of the production facilities are located in this area.

From the other basic raw materials available in the South, the chemical industry is producing benzene and other aromatic hydrocarbons, styrene for synthetic rubber, sulfuric acid, chlorine, and caustic soda. A significant feature has been its emphasis on the production of basic chemicals, indicating well-laid plans for developing a completely self-sufficient industry in this region.

Another important feature of southern chemical industry is the fact that it is closely co-ordinated with all of the new industrial developments in the country: fissionable materials, synthetic rubber, synthetic ammonia, and the rapidly growing synthetic fiber industry.

MODERN PLANT INSTALLATIONS

Finally, the industry is fortunate in possessing new and modern plant installations. The majority of the chemical plants in the South have been constructed during the past ten years, and almost without exception they have incorporated the most advanced production methods. This insures efficient, economical operation and definitely places the manufacturer at an advantage in competing with older manufacturers in other sections of the country.

From all standpoints, emphasis on the production of basic chemicals, integration with the newer and more important industrial developments, and possession of the most modern plant facilities, the southern industry is well on its way to becoming the chief supplier of chemicals in the country. It is also making a strong bid to become the South's most important industry.

In 1950 the South had 25% of the chemical manufacturing plants in the country, 32.5% of all persons engaged in the chemical industry, 31.6% of chemical income payrolls and profits, and 32% of the chemical sales of the country.

SYNTHETIC FIBERS

The development of the new and rapidly growing synthetic fiber industry is an achievement for which the chemical industry can take full credit. This development will materially broaden the base of chemical manufacturing in the South as the introduction of new fibers and the expansion of production facilities for existing synthetic fibers will create new markets for nearly every basic chemical. This is particularly true for the chemicals derived from southern raw materials, such as natural gas, coal, sulfur, and salt. The production of the required new fiber intermediates, such as acrylonitrile, terephthalic acid, butadiene, ethylene glycol, vinyl chloride, and adiponitrile, will provide the starting point for the provision of important new chemical plant installations.

The first of the synthetic fibers to appear on the market

were of the semisynthetic type, in which the basic cellulosic material was modified by certain chemical and physical processes. Rayon, a semisynthetic fiber, was developed before 1920 and by 1930 accounted for somewhat less than 5% of the textile fibers sold in this country. The first American plant was constructed by the American Viscose Corporation at Marcus Hook, Pa., in 1910, and the plant is still in operation. By 1950 the production capacity for rayon manufacture in the United States had reached 1½ billion pounds (equivalent to 3 million bales of cotton), and sales were approximately 18% of the total textile market.

RAYON

Like the cotton textile industry, the production of rayon is predominately a southern industry. Over 70% of rayon production capacity is now located in the South, and contemplated new plant installations recently announced should increase this proportion further. Virginia leads in production with Tennessee next. Georgia and the Carolinas also have important rayon production operations.

NYLON

The first true synthetic fiber, nylon, was placed on the market by duPont in 1939. The basic research work which resulted in the development of the commercial product was initiated by duPont some ten years earlier. It has been said that the production of the first pair of nylon stockings took ten years of time, enormous laboratory facilities, and \$70 million. The modern synthetic fiber industry is a field for giants and can be entered only with great risk and courage.

At no time since its production has duPont been able to satisfy the demand for nylon, and whole fields of application have been neglected, owing to the impossibility of diverting any of the product from established outlets. DuPont has made every effort to keep production and demand in some semblance of balance and is now engaged in the eighth major expansion of nylon production facilities since World War II. More recently Chemstrand has been licensed to manufacture nylon and is constructing a plant at Pensacola, Fla., for this purpose.

DuPont's nylon salt plants are located at Orange and Victoria, Texas; Belle, W. Va.; and Niagara Falls, N. Y. Spinning plants are located at Seaford, Del.; Martinsville, Va.; and Chattanooga, Tenn.

NEW FIBERS

Stimulated by nylon's success, a number of new synthetic fibers have recently appeared on the market, usually in limited quantities. These include duPont's Orlon and Dacron, Chemstrand's Acrilan, and Carbide & Carbon's Dynel. It is interesting to note that, while rayon is a silk and cotton substitute and nylon is a silk substitute, the new synthetic fibers possess certain wool-like characteristics. This is to be expected in view of the declining production of wool and its substantial increase in price. The U. S. Department of Agriculture has stated that the worldwide shortage in wool will continue for at least ten years.

In 1870 the sheep population of the country was equivalent to the human population, namely, 40 million. Since that time the sheep population has declined to 28 million,

while the human population has increased to 155 million. In 1950 we produced only one third of the wool consumed in this country.

Orlon, Acrilan, and Dynel are acrylonitrile polymers or copolymers. Cyanamid is the only domestic producer of acrylonitrile at the present time, with a plant at Warner, N. J. Monsanto is building a large acrylonitrile plant at Texas City, and Carbide & Carbon is building a plant at Institute, W. Va. The production of acrylonitrile in the United States is expected to increase to 300 million pounds per year by 1955 and to 500 million pounds by 1960. The majority of this expanded production is expected to be used for the production of synthetic fibers.

DACRON

Dacron is a polyester fiber, presumably derived by the reaction of terephthalic acid with ethylene glycol. A similar fiber is being produced in England on a small scale under the name Terylene.

DuPont's Orlon plant is located at Camden, S. C., and is presently producing only continuous-filament yarn. An additional plant is being constructed at the same location for the production of Orlon staple fiber.

DYNEL

Carbide & Carbon has a Dynel plant at Charleston, W. Va., and has announced plans for the construction of a larger plant at Spray, N. C. A large plant for the production of Dacron is being constructed by duPont at Kinston, N. C.

Saran monofilaments are being produced at Odenton, Md., and a polyethylene fiber plant is located at Spartanburg, S. C.

Approximately 145 million pounds of synthetic fibers were produced in this country in 1950, equivalent to 2.4% of our total fiber consumption of 6 billion pounds. The 1951 production of synthetic fibers was 210 million pounds. The 1951 over-all fiber consumption is expected to be 4¾ billion pounds of cotton, 1 1/3 billion pounds of rayon and synthetic fibers, and 2/3 billion pounds of wool, a total of 6¾ billion pounds.

Synthetic fiber consumption is expected to increase to 400 million pounds in 1953, to 500 million pounds in 1958, and to 750 million pounds in 1960. The latter will represent an estimated 10% of our total textile output.

The raw materials required for the new synthetic fibers are abundantly available in the South. Nylon is prepared from petroleum and ammonia; Orlon and Acrilan from natural gas and ammonia; Dynel from natural gas, ammonia, and salt; and Dacron from petroleum or coal and natural gas.

The new acrylonitrile fibers, such as Acrilan and Orlon, may be said to be derived almost entirely from natural gas and air. Thus, acrylonitrile will be prepared by some chemical plant operators by the reaction of acetylene (from natural gas and air) with HCN derived from natural gas and ammonia, the latter in turn being derived from natural gas and air.

The growth and concentration of the synthetic fiber industry in the South has been due to a number of factors, in addition to chemical raw materials and textile process-

ing plants. Among these may be listed an adequate supply of good labor, an ample supply of water of acceptable quality, large plant sites, good transportation facilities, adequate utilities, and proximity to good markets.

THE CHEMSTRAND DEVELOPMENT

The rapid developments in the synthetic fiber field may be illustrated by the activities of the Chemstrand Corporation, owned jointly by the American Viscose Corporation and the Monsanto Chemical Company, which was formed in March 1949, to engage in the development and manufacture of synthetic fibers. As a result of an intensive research and development program a wool-like synthetic fiber derived basically from acrylonitrile was developed. This fiber is known as Acrilan.

Acrilan has been in pilot plant production at Marcus Hook, Pa., at an annual rated capacity of 1 million pounds of staple fiber. Much of this output is finding its way into the hands of weavers, who are co-operating in experimental work on 100% Acrilan fabrics, or with blends of Acrilan with such other fibers as wool, cotton, rayon, or nylon.

ACRILAN

One of the outstanding characteristics of Acrilan is its ready dyeability, using standard equipment, methods, and dyes in a broad range of colors. Other significant properties include standard processing by the cotton, woolen, or worsted systems; warmth and warm-to-the-touch factors; high recovery of fibers when distorted; semipermanent heat-set creases; fabric stability; deterioration resistance; low specific gravity; and bulk without weight for excellent covering power.

The company is gearing itself for commercial production of Acrilan at an initial rated capacity of 30 million pounds of staple fiber annually. The Acrilan plant, central research facilities, and home offices of the company will be located at Decatur, Ala., on a 700-acre tract of land on the banks of Wheeler Lake. The initial production of

fiber from the Decatur plant is scheduled for next spring, with full production by early fall.

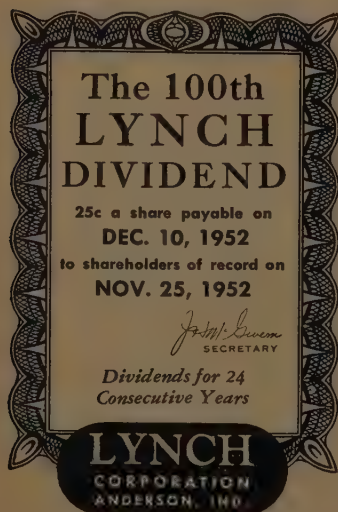
The location of Chemstrand's Acrilan plant at Decatur provides an economic balance between Chemstrand's source of basic raw materials in Texas and the primary markets for finished fibers located along the Eastern Seaboard. Availability of TVA electric power, water for processing, good transportation routes by water, rail, and highway, and labor for operating the production facilities, are principal reasons for selecting Decatur as the site for the Chemstrand headquarters.

Chemstrand is now engaged in erecting 14 modern buildings at Decatur, including its headquarters and personnel administration buildings, three research and development laboratories, pilot plants for continual experimentation, polymer, and main Acrilan processing buildings. Approximately 100 administrative personnel, 200 production workers, and between 350 and 400 research people will be required to staff the Decatur facilities.

On June 2, 1951, Chemstrand was licensed by duPont to produce and market nylon. At Pensacola, Fla., construction is progressing on the Chemstrand nylon filament plant, to be situated on 2,000 acres of land along Escambia River. This plant will produce 50 million pounds of nylon per year. The nylon facilities will require between 2,500 and 3,000 employees, in addition to 100 persons for office and administrative purposes.

By 1953 Chemstrand will have a net worth in excess of \$150 million, indicating the magnitude of the capital required to compete successfully in the synthetic fiber field.

Like Balboa who, on the peaks of Darien, first looked out on the broad Pacific and dreamed of mighty empires to come in that vast region, the chemical industry has looked South and found the prospects good. The latest offspring of this basic industry, synthetic fibers, is growing vigorously in the nourishing soil of the South, a happy augury of other important developments to come in this favored region.



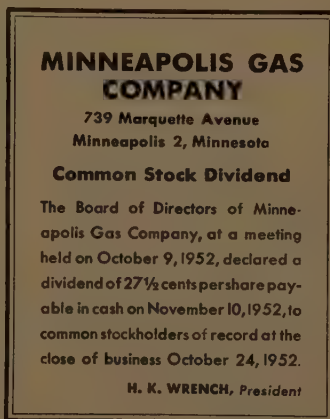
**The 100th
LYNCH
DIVIDEND**

25c a share payable on
DEC. 10, 1952
to shareholders of record on
NOV. 25, 1952

John M. Lynch
SECRETARY

*Dividends for 24
Consecutive Years*

LYNCH
CORPORATION
ANDERSON, IND.



**MINNEAPOLIS GAS
COMPANY**

739 Marquette Avenue
Minneapolis 2, Minnesota

Common Stock Dividend

The Board of Directors of Minneapolis Gas Company, at a meeting held on October 9, 1952, declared a dividend of 27½ cents per share payable in cash on November 10, 1952, to common stockholders of record at the close of business October 24, 1952.

H. K. WRENCH, President

GOOD YEAR

DIVIDEND NOTICE

The Board of Directors has declared today the following dividends:

\$1.25 per share for the fourth quarter of 1952 upon the \$5 Preferred Stock, payable December 15, 1952, to stockholders of record at the close of business November 17, 1952

75 cents per share upon the Common Stock, payable December 15, 1952, to stockholders of record at the close of business November 17, 1952

11c Goodyear Tire & Rubber Co.
By W. D. Shilts, Secretary
Akron, Ohio, October 6, 1952

The
Greatest
Name
in Rubber

Many great products under One Great Name

The inventive genius of Thomas A. Edison made the world a lighter, brighter, far better place to live. The present-day products of Thomas A. Edison, Incorporated continue to mean greater convenience, comfort, and safety for all Americans.

The widely diversified list of Edison products includes long-lived nickel-iron-alkaline *Storage Batteries* . . . used to power industrial trucks for material handling, various railroad, marine, and mine locomotive electrical systems, and portable lighting equipment. Edison *Primary Batteries* operate railway signal systems, while Edison *Automotive Batteries* are used in cars, trucks and tractors.

Edison makes the only complete line of *Dictating Equipment*—for all business and industrial applications—on the market today. The line includes the Disc Edison Voicewriter, heavy-duty dictation

instrument; the Televoice system of telephone network dictation; and the VP Edison Voicewriter, the industry's first truly portable dictating instrument.

Instruments made by Edison include aircraft fire detection equipment, temperature indicators, and engine gages; sealed relays and thermostats, temperature monitoring devices, glow plugs, electrical conductors and igniters. Edison *Furniture* comprises a complete line of nursery and juvenile wood furniture. Numerous Eastern hospitals and industries rely on Edison *Compressed Gases, Equipment and Supplies*.

With many different products in many different fields, Thomas A. Edison, Incorporated today serves virtually every segment of the American economy.

You Can Always Rely on Edison



Thomas A Edison

INCORPORATED

WEST ORANGE, NEW JERSEY

Oil-Man's Bazooka

The Guns Behind the Guns

The guns behind the guns aren't shootin' irons really. Yet, if they didn't hit their target, our men in Korea would be sitting ducks for enemy attack.

The guns we mean are oil well drill stems . . . their target the crude oil that lies beneath the earth . . . destined to fuel the tanks, the planes, the battleships that keep America strong.

There is more to this business of defense than guns that go "bang." The oil-man's role is as vital as that of the man who makes rifles . . . or atomic bombs.

Cities Service, for example, as an expanding, or "growth" company, has a stockpile of ideas, plans . . . blueprints for the future. During the last war these blueprints made it possible to swing into the production of new products to meet new and urgent military demands. So, today, it stands ready to meet demands of the future with the oil-man's bazooka . . . an essential weapon in America's arsenal of defense.

CITIES  SERVICE



Oil and Gas—and Canada's Future

CARL O. NICKLE

ACROSS CANADA IN RECENT YEARS tremendous changes have been taking place. At an accelerating rate, changes are continuing to take place. At the rate of billions of dollars yearly — \$4.5 billion in 1951 alone—new capital investments are changing the face of the Nation, developing mines and oilfields, building railroads, ships, and pipe lines, adding new plants and equipment and machinery, creating new jobs by the thousands yearly, and adding more and more production of hundreds of kinds for Canadians and the rest of the world.

In the opinion of many a Canadian, including this one, and in the opinion of many in other nations, the expansion in Canada adds up to a vital conclusion—the second half of the twentieth century can be Canada's half-century, just as the first half was featured by the tremendous growth of the United States of America, and the nineteenth century marked the period of great expansion of the British Isles.

EXPANSION OVER NEXT 50 YEARS

Canada possesses the basic ingredients for an expansion that, proportionately, can exceed that of other nations over the next fifty years. We possess an abundance of natural resources of land, forest, stream, and the subsurface. We possess, among many of our people, a pioneering spirit. As a people we believe in freedom of the individual and in freedom of enterprise. We recognize that there must be a reasonable degree of safety and profit to induce capital investment on the scale called for, if our hopes for Canada are to be fulfilled. Most of us recognize that the size of the job calls for foreign capital and know-how, in addition to the increasing Canadian capital and know-how being provided, and we welcome this aid from beyond our borders.

CREATING ECONOMIC REVOLUTIONS

The combination of Canadian qualities and resources, and the healthy climate for investment, are creating economic revolutions across the Nation. Western Canada Oil & Gas ranks high on the list of such revolutions. It is my privilege to tell you something of it.

Calgary, that city in the foothills of Alberta which prides itself on its western spirit and "get up and go," is the birthplace of Western Canada Oil's economic revolution. The revolution is one that has already sharply altered the economy of the middle half of Canada, particularly that of Alberta; is increasingly making its weight felt on the economy of all Canada; and is helping reshape world thinking on sources of vital petroleum supply for both peace and war.

Calgary is today the "operation headquarters" for the great bulk of a huge exploration and development program that now extends over quarter of a million square miles of Canada's West. As a Calgarian and a citizen of this "oil capital of Canada," I am particularly happy to speak of

Western Oil to men far distant from my home who share my interest in the sound development of Canada's natural resources.

This oil revolution reflects the joining together of the free enterprise of Canada and of the United States for the exploration and development of the once remote petroleum and natural gas resources of Canada's West. That teamwork has brought results—big enough to stagger the imagination, but as yet only a small fraction of the probable ultimate results. Added to the team in fairly recent months has been European capital, an ally whose part will be expanded in the future to make Western Canada Oil another symbol of the mutuality of purpose and basic ideals of North American and western European nations.

TURNER VALLEY

The revolution had its real beginning back in 1914, when a group of ranchers, farmers, and businessmen from the Calgary area drilled into production a 2,700-foot well at Turner Valley, 30 miles southwest of Calgary city in the southern foothills of Alberta. From that discovery grew, as drilling proceeded deeper, the British Empire's first major oil and gas field—a field that reached its peak of 30,000 barrels daily during World War II while it played an important role in the Canadian war effort. Today—over 1,000 billion cubic feet of gas and 108 million barrels of oil produced since discovery—Turner Valley is a field past middle age, its production waning, but with many years of diminishing useful life to southern Alberta's economy still ahead of it.

Turner Valley made the world's oilmen sit up and take notice of the possibilities for oil and gas on the plains of western Canada and the foothills of Alberta. Through the 1930's and '40's upwards of \$50 million was poured by oilmen into the oil and gas search in the region. Along came discovery of several important gas fields, and several small oil patches—but nothing of a size to fulfill the high hopes created by Turner Valley.

By the end of 1946 the outlook was bleak. Exploration spenders were down to a scant dozen, and spendings for both development and exploration had declined to only \$1 million a month. Only 19 drilling rigs and a dozen geophysical survey crews were working. The western Canadian oil and gas play seemed to be dying.

Then on February 13, 1947, Imperial Oil Limited, Canada's leading explorer, hit the jackpot, after a multiyear \$23-million program that had included over 120 exploratory dry holes. The jackpot was Imperial-Leduc number 1, on the plains of central Alberta, 20 miles southwest of Edmonton. The discovery well poured out 1,000 barrels of oil daily from a mile-deep Devonian coral reef formation. It brought the first proof of major oil prospects on the Canadian plains, shocked the world oil industry into a new and greater realization of Canada's potentialities. Oil firms

and investment capital flocked in, and the oil play started a rapid expansion.

MEASURES OF GROWTH

At the start of 1947 Alberta was producing a mere 19,000 barrels daily of crude oil; the Prairie Provinces were dependent for over two thirds of their needs on imports from the United States and were faced with sharp increases in products' costs because of the mounting cost of oil brought in by rail from as far away as Texas and Louisiana. The rest of Canada depended on imports. The Nation as a whole was less than 10% on the way to self-sufficiency in petroleum, a resource vital to the functioning of the economy.

Today western Canada has an actual potential of over 250,000 barrels daily, this potential being the volume of oil that could be produced under sound conservation principles if the transport, refining, and marketing facilities were available. The potential is growing rapidly as discoveries continue, and might well reach 400,000 barrels daily—equal to self-sufficiency for all Canada—over the next two to three years.

INDUSTRY HAS LAGGED

As is inevitable with any fast-expanding natural resource industry, transport and marketing facilities have lagged behind the growth of the West's oil potential. In 1951, however, actual production built up from around 100,000 barrels at the start of the year to a peak of 168,000 barrels daily during the summer and fall. This was made possible by the completion of more refineries on the Prairies; by the completion of Canada's first major oil pipe line (from Edmonton, Alberta, to Superior, Wisconsin, at the head of the Great Lakes); by the commencement of Alberta oil shipments by pipe line and lake tankers to Ontario refineries up to 1,900 miles distant, during the open season of the Great Lakes; and by the commencement of Alberta oil deliveries on a fair-sized scale into the midwest United States.

Today the Prairie market is at its winter low and the Great Lakes are closed to shipping. Between now and the end of April, production will likely be only 115,000 to 120,000 barrels daily, less than one half of potential. Come May, however, the ice will disappear from the Lakes, western farmers will sow their crops—and western Canada oil production will rise to a new all-time peak of between 190,000 and 200,000 barrels per day. This spring the industry will for the first time record a 1,000% increase over the production that prevailed just prior to Leduc's discovery five years ago.

At the start of 1947 western Canada's proved oil reserves were less than 100 million barrels. Today the proved reserves are estimated at some 1,700 million barrels—a 1,700% increase. More complete evaluation of a long string of recent discoveries, plus expected new discoveries, could raise the proved oil reserves to around the 2,000-million-barrel level over the next year. Ninety-five per cent of the present reserves are located in Alberta, the chief region of exploration to date, with the remainder in the lightly explored Northwest Territories: Saskatchewan, Manitoba, and British Columbia.

Natural gas reserves are being boosted rapidly, particularly in Alberta, where gas discoveries have been made in more than 125 different areas the past five years. Alberta's total proved gas reserves are now estimated at between 8,000 and 12,000 billion cubic feet, dependent on the individual appraiser's rating of the many one-well gas strikes that have not yet been fully evaluated. In western Saskatchewan, during the past year, several gas discoveries have been made. Two have been made in northeastern British Columbia.

The gross worth of the various oil and gas reserves so far found is now over \$5 billion. The value is large—but it is still small when one considers that western Canada contains over 400,000 square miles of territory geologically favorable for oil and gas accumulation, and less than 5% of that huge region has so far been fully evaluated by the oil seekers. Discoveries are still being made, in fact, in areas once considered "written off" by exploratory failures.

Texas, Oklahoma, California, and Louisiana, the four greatest U. S. oil states, could be placed inside the boundaries of western Canada's known and potential oil and gas belt and still leave plenty of territory uncovered. The intensity of exploration in western Canada to date is only about 1% of the intensity to date in the four great American states.

SELF-SUFFICIENCY PLUS SURPLUS

It is not surprising, therefore, that many oil authorities think of western Canada, not so many years hence, in terms of self-sufficiency for the Nation plus a large surplus available for Canada's oil- and gas-hungry neighbors. My own guess is that a decade from now western Canada will be turning out oil and gas with a value greater than the output of the West's agricultural industry, an industry that is now in the billion-dollar-a-year bracket. By contrast, the oil and gas industry turned out some \$120 million in crude products, mostly in Alberta, the past year.

What is being done to achieve this happy state? Let us look briefly at 1951, the year just ended, which set new records on all counts for the sixth year in a row. During last year over 200 oil companies, Canadian and foreign, small and large, poured over \$200 million into western Canada oil and gas exploration, development, and land.

They looked for structures with geological and geophysical survey parties, and drilled down into possible oil and gas structures, harder than ever before. They completed over 550 wildcat or exploratory wells, out of the total of 1,370 wells completed in the year. Some 430 of the prospects proved dry, and the wildcats were abandoned. But from the others came a record number of discoveries—108 in all, including 40 oil strikes and 68 gas discoveries. Counting discovery and field development wells, the number of oil wells increased by 816 in the year and gas wells increased by 125.

Alberta, heart of the industry, led the 1951 discovery parade with 98 finds, including 35 oil strikes and 63 gas discoveries. Saskatchewan, for several years a producer of heavy crude at Lloydminster, came through with a pair of oil strikes and three gas finds. Manitoba provided its first oil, with a pair of discoveries in the southwest corner of that province. British Columbia came through with a gas

discovery and its first oil strike, both in the northeastern section of the province.

Today oilmen are looking for structures and drilling wildcat wells at a rate even higher than in 1951. January brought seven more discoveries, including three oil and two gas discoveries in Alberta, the first medium-gravity oil discovery in Saskatchewan, and another gas strike in that province. Many more strikes will be made this year, undoubtedly, but no one can predict the number with any accuracy.

DEVELOPMENT AT ALL-TIME HIGH

Today the industry is pouring money at a rate of \$12 million monthly into the drilling, geological, and geophysical phases of exploration and development, an all-time high for Canada. More millions of dollars are being poured into lease and reservation fees, and into bonuses to Government and private mineral rights owners, also at the highest rate in history.

In all western provinces, drilling rigs are making hole in record numbers. There are now 231 rigs drilling, a far cry from the 19 of five years ago. Of these fully 100 are drilling on wildcats, looking for new fields, and 131 are developing known fields. Alberta leads with 195 rigs running, while Saskatchewan now has 26, and Manitoba and British Columbia have 5 rigs each. More drilling rigs are working in western Canada than in any of the world's oil nations with the exception of the United States.

The number of geophysical parties, seismographs, gravity meters, and magnetometers is now 153, dwarfing the mere dozen that were looking for structures in western Canada five years ago. In Alberta are 120 of the survey crews, while Saskatchewan has 25, Manitoba 5, and British Columbia 3. Alberta ranks second among the world's oil states in terms of hunt for structures, with the state of Texas in the number-1 spot.

Today the exploration play spreads over 170 million acres of lease and reservation lands in western Canada, contrasted with active exploration on less than 20 million acres five years ago. Plenty of "potential oil land" is still open for those who care to join the mounting exploration play.

In the five years since Leduc started the modern oil boom, and because of it, upwards of \$1 billion of capital investment in Canada has been made. This includes well over half a billion dollars invested in land acquisition, exploration, and development. The remainder has gone into pipe lines, tankers, and other transport facilities for oil or gas, in expansion of refining facilities in the West and Ontario, and in plants and other facilities across the Nation to provide equipment, pipe, tools, and other supplies to the oil industry, in Canada.

THE OUTLOOK

The names of some of the individual fields in Alberta have become well known over the continent. These are the major fields, the one in a hundred that stand out above all the host of small and medium-sized fields that account for the great bulk of oil and gas fields throughout the world.

There is Turner Valley, in the Alberta foothills, which won fame as the British Empire's first big "wet gas" field

and wasted a 1,000 billion cubic feet of gas as a by-product of oil before the world recognized in full the value of gas itself. In 1936 deeper drilling by Calgarians headed by Bob Brown turned the valley into Canada's first major oil-field.

In 1944 Shell Oil Company discovered Jumping Pound, in the foothills north of Turner Valley, and has developed it into a major wet gas field containing over 1,000 billion cubic feet of gas together with millions of barrels of condensate, sulfur, and other valuable recoverable products. In recent months, after a seven-year wait, Jumping Pond was connected to Calgary's gas system and has now started a long and useful economic life, producing gas for Alberta, sulfur for British Columbia paper mills, and liquid products for oil refineries.

PINCHER CREEK

In 1948 Canadian Gulf Oil Company discovered Pincher Creek, 2¼ miles below the foothills in the southwest corner of Alberta, and has developed it into one of the largest wet gas fields in the world. In a seven-by-three-mile area is concentrated nearly 2,000 billion cubic feet of gas, with the production of which can be obtained over 71 million barrels of condensate, natural gasoline, propane, and butane, plus 7,400,000 long tons of sulfur. Pincher waits an export market for its gas, which would permit sulfur production equal to half of Canada's needs, and building of a major petrochemical industry in southwest Alberta.

In 1947 Imperial Oil discovered Leduc-Woodbend, the first major oilfield on the Canadian Prairies, whose Devonian reef core contains some 300 million barrels of light oil plus 500 billion cubic feet of gas. Leduc rated as the world's largest single oilfield discovery of 1947.

In 1948 Imperial discovered Redwater, 50 miles northeast of Leduc on the central Alberta plains. This field has since developed into a 700-million-barrel oil reserve, largest in Canada to date, and the world's largest single find of 1948.

In 1949 Imperial discovered Golden Spike, just west of Leduc, a reef field small in area but whose maximum 620 feet of pay zone contains over 75 million barrels of oil. A few months ago, southwest of Leduc, Texaco Exploration Company and McColl-Frontenac Oil shared discovery of Wizard Lake, another small area field but with a new record pay thickness of 630 feet and a reserve of over 100 million barrels. A few weeks ago Texaco and McColl-Frontenac scored again, with their Bonnie Glen discovery south of Wizard, getting a new record of 690 feet of pay zone, and perhaps indicating another major find.

To these major discoveries can be added the scores of smaller discoveries of oil, wet gas, and dry gas, made by a host of companies large and small in western Canada. From the sum total certain important conclusions can be drawn concerning where the oil and gas discoveries of the future will be made. These are the conclusions:

Central Alberta, where Leduc, Redwater, and numerous other fields have been found, is the most intensively explored part of Canada so far, but discoveries are still being made, and prospects for many more are bright.

The south central and southern Alberta plains, source of many small oil and gas fields found years ago, have come

through more recently with a long string of Devonian reef oil and gas discoveries, stretching up to 200 miles south and southeast of Leduc into the Calgary and Drumheller areas. Several large gas reserves have also been found in formations above the Devonian. Relatively unexplored, the plains between Leduc and the American border are a rich hope for the future.

The northern Alberta plains—notably the Peace River region—have provided a string of gas discoveries plus oil encouragement in the initial exploration efforts of the past three years. This scarcely touched region, stretching several hundred miles north of Leduc, looks like one of the great oil and gas prospects for the future. The adjoining northeastern sector of British Columbia shows comparable promise.

The Alberta foothills belt, that complicated line of buried mountain ridges paralleling the Rocky Mountains to the east, has already provided the Madison limestone major fields of Turner Valley, Pincher Creek, and Jumping Pound. It offers numerous prospects for further important oil and gas finds.

Southern Saskatchewan and southwest Manitoba, a vast area now at the early stages of a major exploration play, have provided in the past year a wave of encouragement. Manitoba has come through with a pair of small oil discoveries, the first in that province. Saskatchewan has provided several oil strikes, yielding heavy crude comparable to that of Lloydminster, plus recently a strike of medium-gravity crude in southwest Saskatchewan, and strikes of natural gas. To the south across the U. S. border—on part of the same great geological basin—light oil and gas in large volume have been discovered at several deep wells in northwest North Dakota and eastern Montana, in Madison and Devonian formations. This Williston-Moose Jaw Basin—on both sides of the international border—is 1951's brightest addition to the potential major oil and gas regions of the world.

NORMAN WELLS

Western Canada's first Devonian reef oilfield, Norman Wells, is in the Northwest Territories about 1,000 miles north of Alberta's string of Devonian fields. The intervening territory—between Alberta and the Arctic Ocean—is another virgin, but potentially great, oil and gas region.

The McMurray Tar Sands of northeast Alberta, estimated to contain from 100 to 300 billion barrels of heavy, molasses-like bitumen, are the world's largest known source of petroleum. The time is approaching when economic development of the sands will be possible.

THE DEVELOPMENT OF OIL MARKETS

In the past three years over \$250 million has been spent to provide Alberta oil with the means of transport, refining, and distribution, making possible an average daily market for 1952 of around 160,000 barrels. That is a great build-up from the 19,000 barrels daily of five years ago. Over the next two years at least another \$200 million will be spent on transport and refining facilities—to provide by mid-1954 facilities and markets capable of supporting a year-round daily average production of some 280,000 barrels.

If the great barrier of United States tariffs against Canadian oil can be lowered or eliminated, the 1954–55 market for our oil could be much larger than 280,000 barrels, and the market could expand greatly thereafter. Meanwhile, our target two years hence includes 105,000 barrels daily to meet the needs of Alberta, Saskatchewan, and Manitoba; 120,000 barrels daily for Ontario; 15,000 barrels daily for the American lakehead area; and 40,000 barrels daily for Vancouver refineries.

Hitting that target will mean producing oil with a value around \$700,000 daily, or over \$255 million yearly rate.

1,300-MILE PIPE LINE SYSTEM

The Prairie and eastward expansion has meant building of a 1,300-mile \$110-million pipe line system linking central Alberta with the Great Lakes and with Prairie refining centers; construction of a tanker fleet to transport crude from lakehead to Sarnia and Toronto; and a \$100-million refinery construction program in Prairie cities, in Ontario, and at the American lakehead. The capacity of these transport and refining facilities are still being expanded.

NEXT MOVE WILL BE WESTWARD

The next major move will be westward, with a \$100-million oil pipe line from Edmonton to Vancouver being started over the Rocky Mountains this spring. The line will be completed early in 1954 and will coincide with refinery expansion at Vancouver.

First target of the Pacific oil line is British Columbia's 40,000-barrel market, but major objective is a sizable share of the 250,000-barrel market existing in the U. S. Pacific Northwest. To the east of Alberta, a major objective of Canadian oilmen is a share of the big market in the U. S. Midwest.

The cold fact is that the best way for Canada to become self-sufficient in petroleum is "in balance," reaching with its own oil from Vancouver to Toronto, and delivering its surplus to the United States, with American and other crudes serving the big 140,000-barrel daily market centered on Montreal and the sizable market in the Maritime Provinces.

If the United States bars the door to the exchange by declining to lower or remove its tariff on oil imports from Canada, then Canada would be forced at heavy economic cost to ship its crude eastward to its own seaboard, and reach into world markets from Vancouver.

I firmly believe that the doors will be opened for Canadian oil to reach its best geographical and most economic markets in North America. I believe the doors will open because of the close and friendly relationship between Canada and the United States; because of the growing recognition of the interdependence of the two nations on each other's natural resources, for both peace and war; because of the direct participation in Canadian oil by far more American oil firms than in any other oil region outside the United States.

If these reasons are not sufficient, then national self-interest alone should dictate that the Nation that now produces over 55% of world oil production while possessing only 28% of world reserves, must safeguard its future by making possible the maximum development of great new

reserves in neighboring Canada. That development depends on markets, and I am sure that the two Governments will not too long delay action to make this possible.

GAS EXPORT

The other great question of markets concerns Alberta natural gas. Alberta has large proved reserves of gas and, in the opinion of all authorities, will discover within its boundaries more reserves that will dwarf those of today. So far the provincial government has banned export—a ban that applies to no other Alberta resource or product—pending complete assurance that it has a large surplus over and above the province's own long-term domestic and industrial needs.

For three years Alberta's Oil & Gas Conservation Board has been conducting hearings and studying the growth of gas reserves. In March it is slated to submit its recommendation for or against immediate approval of export, to the Government. I believe that the answer will favor export.

Approval of export will usher in a great new era of gas development and exploration in Alberta, speed up development of a huge petrochemical industry in Alberta based on by-products of raw gas, and launch a multihundred-million-dollar program of gas pipe lines that will in time bring the benefits of gas to Canadian provinces east and west of Alberta and to sections of the United States.

THE BENEFITS

This article would not be complete without some reference to the direct and indirect benefits that come from a major oil and gas development.

Alberta is a striking example. The Alberta government owns 90% of mineral rights under the province and leases these out to the oil industry under a formula designed to give the treasury a maximum of cash with a minimum of risk, and the industry a fair share of profits if discovery results. Since Leduc's discovery five years ago the Alberta treasury has reaped a harvest of over \$125 million from the oil industry in fees, rentals, royalties, and cash bonuses. Over the next decade the treasury will likely collect at least another half billion dollars. This cash is liquidating the provincial debt and is providing Albertans with benefits making them the envy of other Canadians.

HAVE BEGUN TO COLLECT FEES

Saskatchewan, Manitoba, and British Columbia have begun to collect exploration fees, rentals, and royalties paid on Government rights and—like Alberta—share the benefits of increased spendings and increased employment by the expanding oil industry.

Hopes are bright that Alberta will become one of Canada's great industrial provinces, because of oil and gas and their by-products. A \$50-million plant is now being built at Edmonton to turn out a broad range of petrochemicals from the rich gases obtained from cracking of oil at near-by refineries. A plant now building at Fort Saskatchewan will use Alberta gas to refine nickel ores brought by railway from Manitoba. Sulfur plants are being built at Turner Valley and Jumping Pound. Gas export will make available a broad range of liquid and solid by-products from

raw gas that can be used in Alberta to turn out plastics, synthetic rubber, synthetic fabrics, detergents, and a host of other products of the petrochemical industry.

The petroleum consumers of the Prairies are drawing a major, direct benefit from the oil strikes. Their bill for gasoline and other products has been lowered at least \$50 million yearly by the displacing of higher-cost foreign oil.

REDUCED NEED FOR U. S. DOLLARS

Production of Alberta oil has already reduced by over \$150 million yearly Canada's need for U. S. dollars with which to purchase foreign oil for Canadian needs. That and the inflow of U. S. dollars for exploration and development are among the largest single factors since World War II in relieving Canada's foreign exchange problem, and ending the exchange restrictions. Oil is becoming a great new source of Canadian tax revenue, thus reducing the burden on other taxpayers.

At least as important as all other benefits, in these times of world struggle between communism and democracy, is the building up of rich oil and gas reserves, transport and refining facilities, and associated industries, in the heart of the North American continent. They are now a mighty weapon, and will become an even more mighty one, in the hands of Canada and her friends in waging and winning the war against the evil forces which lurk behind the Iron Curtain.

UTAH POWER & LIGHT CO.

Serving In
**UTAH
IDAHO
WYOMING
COLORADO**
HEADQUARTERS
SALT LAKE CITY

**A GROWING
COMPANY IN
A GROWING
WEST**

Profit from Railroad Revenue Dollars

ROBERT E. THOMAS

MUCH HAS BEEN WRITTEN in recent years about one important source of profits in the railroad business, namely, operating savings. Admittedly such operating savings are important and are not to be underestimated. Yet it might well be that railroad managements have paid too much heed to developing operating savings when their principal attention might have been directed at preserving profits from present revenue dollars and creating profits from new revenue dollars.

This observation is not made in any spirit of criticism of railroad managements. Neither do we wish to belittle or minimize the importance of operating savings or the magnificent job railroads have done in recent years in developing them.

It is important that profits arising from operating savings be viewed in their proper light: that such profits are perfectly normal and to be expected in any alert and wide-awake business—in fact, their absence would be indicative of serious weaknesses; that such profits arise principally because railroads are forced by competition and increased outlays for labor to develop and accept new and better ways of doing their work; and, finally, that such profits are not an end in themselves but rather an incidental to attaining the main goal of the railroad industry—adequate earnings from the business of transportation by rail.

In recent years too little attention has been given to the most important and real source of profits in the railroad business—a source of profits that in principle is identical with the true sources of profit in any line of business, whatever it may be.

PROFITS FROM REVENUE DOLLARS IMPORTANT

Why are profits from revenue dollars so important? Profits of this sort are the real measure of a railroad's prosperity. In the long run, the most alert operating management cannot possibly make profits from operating savings unless profits are being made from revenue dollars. Revenue dollars and the profits therefrom constitute the lifeblood of railroads, just as they constitute the lifeblood of any other kind of business.

The railroad revenue dollar has gone through a period of great change in recent years. It of course has shrunk like the revenue dollar in all other lines of business. But the purchasing value of the dollar has shrunk markedly over the past decade—whether it be the railroad revenue dollar, the personal salary dollar, or whatever dollar we happen to be talking about. No individual or business that we know about has been immune to this decrease in the purchasing value of the dollar.

The changes in the revenue dollar to be emphasized in this article relate to the sources of those dollars and the inherent ability of the industry to convert a part of that dollar into profit. To name a few: There are the loss of good profitable railroad traffic to the trucks, the inability to con-

vert any part of the passenger revenue dollar into profit, and the furnishing of certain duplicate and overlapping services without profit.

LOSS OF TRAFFIC TO TRUCKS

Probably of greatest importance is the loss of good profitable railroad traffic to the trucks. Based on statistics published by the Interstate Commerce Commission, it looks as though railroads have lost 100 billion ton-miles yearly to intercity truckers between 1926 and 1950. Statistics of this sort always have one big weakness—they are so far behind as to be almost ancient history. Currently, traffic lost to the trucks is probably running at around 125 billion ton-miles yearly, and, unless the railroad industry adopts a new approach, we are afraid this loss will continue to increase.

Some of this lost traffic is tonnage which from a service point of view will continue to be handled by truck. Possibly some of it is traffic that could not be handled profitably by rail at competitive rates. Some of this lost traffic represents the substitution of truck service for railroad service. *But a great deal of the lost tonnage is good profitable long-haul traffic which ought to move by rail.* This lost tonnage will come back on the rails only if the railroads face squarely the basic reasons for the traffic now going by truck, and then take steps to recover it.

It is well within the bounds of possibility that, under favorable conditions, one third to one half of this lost business could be recovered by the railroad. Getting one third of it back would mean some 40 billion ton-miles yearly. One half of the lost business would be 60 billion ton-miles. Getting this business back would increase present railroad traffic from 6 to 10%.

Official statistics on average revenues per ton-mile of the trucking industry lack the completeness of those compiled for the railroad industry. The various components of the trucking industry also vary considerably in the type of transportation service rendered. In 1951 Class I common carriers of general commodities realized an average of \$15.87 per ton of revenue freight transported. On the basis of a probable average haul of 225 to 240 miles, these carriers received an average of 6½ to 7 cents per ton-mile.

Average ton-mile revenue is to us the crux of the matter. Why *should trucks* charging an average of 6½ to 7 cents a ton-mile take business away from railroads which operate profitably on an average revenue of less than 1½ cents per ton mile?

It is true that some of the tonnage going by truck is short haul and therefore cannot economically be moved by rail. It is likewise true that some of this tonnage becomes LCL freight in rail movement. But a surprising proportion of that tonnage ought to be most economically transported by rail rather than by truck.

About two years ago, the decision of the Interstate Com-

merce Commission in *Pacific Intermountain Express* Company's move to acquire Keeshin Freight Lines revealed that 35% of the tonnage of Pacific Intermountain Express in 1948 was represented by shipments of 10,000 pounds or more. Their average haul was over 1,500 miles. For the same year shipments of 10,000 pounds or more represented 44% of the tonnage of Keeshin Freight Lines. Their average haul was 215 miles. Offhand that kind of business sounds like good railroad traffic.

This same decision also revealed that the average revenue per ton-mile of Pacific Intermountain Express—a transcontinental carrier—was 3 1/3 cents back in 1948. For Keeshin Freight Lines—operating in the northeastern part of the United States—average revenue per ton-mile was 6 2/3 cents. The railroads received an average of 1 1/4 cents per ton-mile for that year.

Since these figures became available, many railroad analysts have considered reasons why these two trucking concerns—which are perhaps fairly typical of common carriers of general commodities—should be in a position to compete so effectively for good profitable railroad traffic.

TRUCK RATES BASED ON COST

Because of fierce competition in the trucking industry and the existence of a fair amount of private truck transportation, *truck rates tend to be based almost entirely on cost*. Railroad rates, on the other hand, are based more on the principle of value of service with low rates for low-value bulk commodities and high rates for high-value finished goods. Historically, this principle of rate making enabled low-value raw materials to move long distances by rail at rates that included little or no profit to the railroads. Profits came from the movement of high-value finished goods.

Rate-making principles of this sort worked all right when railroads enjoyed a monopoly, but that happy state no longer exists—the railroads now have to get out and fight for a great deal of their business. Unfortunately, under present rate-making policies, railroads are licked even before they start to fight.

Across the board percentage rate increases in the post-war period have pushed more and more rail rates on high-value finished goods above the level of truck operating costs, with the result that the railroad industry can no longer compete effectively for tonnage in many commodities. Rates appearing in railroad tariffs covering such commodities become truly "paper rates" because they produce no business.

The effect is widespread. Railroads lose tonnage that from every economic point of view they should not lose. In the long run, railroad rates on low-value, low-rated commodities and raw materials will have to be raised, and raised substantially. No manufacturer using trucks for the outbound movement of high-value, high-rated finished goods should expect to continue receiving raw materials at low rates providing little or no profit to the railroad. In fact, as railroads lose a greater and greater amount of the profitable business, average unit costs will rise substantially. The impact of this cost increase on the low rates will in time be viewed as a serious matter by many manufacturers if the trend is not stopped.

Farmers should also be interested because they are a

major beneficiary of present rate policies which mostly ignore unit costs of transportation in the railroad business while allowing a strong competitor to take business away by the use of unit costs.

COMPARISON OF UNIT COSTS

Basically what are the unit costs of moving tonnage by rail compared with movement by truck? To start with, we know that railroads generally make money on an average charge of 1.4 cents per ton-mile. In fact, profits on this basis would be almost an adequate return on invested capital, were it not for the tremendous losses in passenger, head-end, and other money-losing services. The best available information would indicate that truck common carriers of general commodities have costs amounting to perhaps 6 cents a ton-mile. Common carriers of special commodities, contract carriers, and private fleet operators by the nature of their operations enjoy lower unit costs—possibly as low as 3 to 4 cents a ton-mile.

With these relative costs, there is no justification whatever for trucks taking intermediate and long-haul traffic away from the railroads. The answer is simple—first, carefully determine the cost of moving a ton of freight a mile by truck, and, second, establish that unit cost as a rate ceiling for intermediate and longer-haul traffic.

Of course, such a solution would be opposed by lots of people. The truckers obviously would not like it a bit. Those who make and regulate rates might be shocked by the upsetting of the proper relation of "paper rates" to rates on moving traffic. But these relationships built up over the years and in most cases of long standing have already been upset. The traffic now goes by truck.

Would the regulatory agencies permit reductions in these "paper rates" without at the same time ordering reductions in those rates that are moving traffic? We do not know the answer, but again, as investors and businessmen, we think the railroads ought to find the answer to that question.

With a rate ceiling of 3 to 4 cents a ton-mile on intermediate and long-haul traffic, we believe some 40 to 60 billion ton-miles of traffic could be gotten back from the trucks. On the basis of 3 cents a ton-mile that lost traffic would bring in \$1,200 million to \$1,800 million of additional revenue annually, and the profits created by those revenue dollars ought to be measured in the hundreds of million dollars.

PASSENGER AND ALLIED SERVICES

Creating profits from revenue dollars in freight service is simple in contrast to the problem of creating profits from the revenue dollars in passenger and allied services. To most railroad men any talk about creating profits from passenger revenue dollars probably sounds foolish in view of the staggering losses now being incurred. Perhaps the basic difficulty in dealing with these losses is the fact that few persons really know just what goes into the passenger service deficit. The reported loss is an aggregate of losses and profits from the several services furnished by railroads under the general heading of passenger service. No one has satisfactorily determined just where the losses are incurred and the profits are made. Certainly there are lots

of figures prepared by the Interstate Commerce Commission and by individual railroads on a piecemeal basis, but no complete cost studies have been made to our knowledge.

The reported loss of almost \$700 million in 1951 is the largest yet. These increasing losses from year to year have become a matter of serious concern to many shippers across the country who feel, and perhaps rightly, that they are footing the bill. Regardless of the amount of passenger business or the loss or profit therein for individual railroads, this attitude of shippers is one that should be, and we think is, an industry-wide problem. For the good of the railroad industry it is a problem that must be solved.

RAILROAD APPROACH SEEMS NEGATIVE

The railroad approach to solving the tremendous passenger deficit at times seems weak and negative in character. Railroad spokesmen bemoan the attitude of regulatory agencies, they plead before Congressional committees for corrective legislation, they file numerous applications for abandonment of this or that service, and these applications become the subject of long-drawn-out legal proceedings. Perhaps there are some steps of a more direct and positive nature that might be tried. Even if more positive steps failed to get results, we think most shippers and other interested persons would be highly complimentary of any attempt by the railroads to help themselves rather than waiting for someone else to do the job for them.

PROPER COST-ACCOUNTING SYSTEM

Certainly the first step of a positive nature ought to be the installation of a proper cost-accounting system to provide an answer to the question of which services make or lose money. Without proper cost accounting, how can the railroad industry intelligently abandon the unprofitable services and not run the risk of ridding itself of some profitable services at the same time? Many will say that there is little danger of that. Perhaps so—but there are a few who look on some passenger service as being profitable. President C. M. Roddewig of the Chicago & Eastern Illinois Railroad, speaking to his stockholders at their annual meeting last spring, said:

If your passenger service continues its present pattern of satisfactory earnings, we must face the problem of purchasing more new lightweight coaches and sleeping cars, both to keep on top of the business and to attract new traffic. As long as we can run passenger trains and make a little money on them, it would be foolish to slough off so important a part of our gross by drying up this service.

As stated earlier, the main goal of the railroad industry should be adequate earnings from the business of transportation by rail. In achieving that goal, there should be no prejudice against making money from the transportation of passengers.

Development of proper cost accounting to segregate the profits and losses going into the passenger service deficit will require consideration of changing the present Interstate Commerce Commission formula for determining the passenger service profit or loss. Probably most railroad people, if asked, would agree that the formula is wrong and ought to be changed. If it is correct that a large proportion of the expenses common to both freight and passenger ser-

vice would not be eliminated by the complete abandonment of passenger service, perhaps the formula should be changed. Moving freight is the principal job of most railroads, and passenger service under those conditions should be looked on as a by-product of the freight service. A new formula on that basis would materially reduce the present reported passenger service deficit and effect a real change in the attitude of most shippers toward it.

In developing a proper cost-accounting system, railroads jointly ought to obtain the best possible advice from leading manufacturers, public accounting firms, and any others having a specialized knowledge of the principles of cost accounting. Such a system when developed would provide railroads with detailed data on the costs of various services included in the passenger business. With a cost system developed in large part from advice of people outside the railroad industry itself, costs would possibly be viewed with less suspicion by regulatory agencies and others than if the system was developed entirely inside the railroad industry.

SURVEY OF ALL PASSENGER SERVICE

After a cost system based on established principles of cost accounting has been established, the second step of a positive nature ought to be a survey of all passenger service—both main and branch line—to determine which trains are not making money and which trains are losing money. Statements of earnings of individual trains ought to be prepared regularly. The few railroads already preparing such statements have found them invaluable as a management tool. If available at regular intervals these reports enable management to deal quickly and effectively with changes in costs and earnings of individual trains.

It has been pretty well demonstrated that, wherever a sufficient traffic potential exists, passenger service can be made profitable. Consequently, the third step of a positive nature ought to be a survey of potential passenger business now using some other form of transportation. Such a survey might show that existing profitable trains could be more profitable. It might show that some trains now losing money could be made profitable. A survey of this kind might develop instances where a cheaply operated self-propelled car could make profits from revenue dollars. Perhaps most important of all, a complete survey of this sort would be one additional proof of the hopelessness of continuing certain passenger trains where no potential business exists—where the best-of equipment and service would not produce revenue dollars.

Armed with a modern cost system to determine costs of each and every part of the passenger operation, regular reports of individual train earnings or losses, and a complete survey of potential business, railroads would then be in a position to deal intelligently and effectively with the passenger service deficit.

For a few railroads commuter service is a very serious problem. It is fortunate that not too many railroads have a commuter problem, but, where the problem exists, we can assure you it is a very serious matter indeed to the management concerned. The average commuter has difficulty understanding why the railroad does not make a great deal of money from commuter trains. To people in the rail-

road business there is no mystery about this. To begin with, few commuter trains meet the first requirement for operating passenger service; namely, a traffic potential between terminals sufficient to maintain train loads. Even though a commuter train leaves the station in the afternoon with standing room only, the average train load for the entire run is quite often only a small proportion of train capacity. Second, of course, is the factor of very high labor costs due to inability to use commuter train crews during the middle hours of the day even though the time is being paid for. Third is the substandard fare level.

But, when you look at commuter service from an overall economic point of view, there is real justification for railroad commuter service in our large metropolitan areas. E. E. Kearns, manager of the urban transit division, General Electric Company, highlighted very effectively the economic justification for mass transportation in a speech before the American Institute of Electrical Engineers last January 22:

The essence of the traffic congestion problem is that there are not and never will be enough streets, freeways, tunnels, bridges, and parking spaces to permit the movement of all people and goods over paved streets and highways. Take New York City, for example. It would require 12 to 15 six-lane, grade-separated parkways to provide the same passenger-carrying capacity as a four-track subway. Not only this, but where, oh where, would you park the cars delivered by such wide expanses of multiple freeways?

If Mr. Kearns is right, there must be some way to operate commuter trains profitably. New equipment is part of the answer, but new equipment alone will not attract enough riders to convert large losses into reasonable profits. The problem has many facets. A new fare basis combining the fixed charge of transit systems with the mileage basis of the railroads might improve revenues and make up in part for low average train loads. Possibly something could be done about high local taxes. Lowering unit labor costs in commuter service is important and is a job that no one has tackled. The outstanding fact is that commuter service is amply justified by the economics of mass transportation, but no railroad other than the Illinois Central has been able to create any profits from the revenue dollars in commuter service. Those railroads having a large passenger operation might consider placing all authority and responsibility—including that of making money—in the hands of a vice-president in charge of passenger service. This has never been done. Concentration of authority and responsibility is usually a must when a business has a difficult task. It would be interesting to see the idea tried by a railroad with a substantial passenger operation.

But, whatever the management setup, the problem of the passenger service deficit must be solved. Trains that are or can be profitable should be made up of clean, modern equipment and staffed with courteous, pleasant crews. Such trains operated on convenient schedules ought to produce profits from revenue dollars.

Trains and services that are hopeless money losers must be abandoned as quickly as possible. State regulatory commissions are often difficult and notoriously shortsighted. Railroads must determine their costs accurately so that losses cannot be questioned and then aggressively pursue

every possible means of ridding themselves of unprofitable trains and services. No stone should be left unturned in an effort to convince all concerned—the legislatures, regulatory commissions, Government officials, politicians, and affected citizens—that the railroad industry really means business in ridding itself of unprofitable passenger service.

HEAD-END TRAFFIC

Before we leave the subject of passenger deficits, the question of losses in handling head-end traffic should be touched on briefly. Most interesting in connection with these losses is the present contract with the Railway Express Agency which provides the same incentive to keep costs down as holders of Government cost-plus contracts had during World War II. The formula for payments to the railroads has worked on at least one occasion to require payment by a railroad to the Express Agency for the privilege of operating express cars over its own railroad.

But the contract itself is relatively unimportant. If wrong, it can be changed. More basic is the fact that railroads perform the same service in three different ways, each of which compete with each other with Government parcel post, and with trucks. The development of railroad merchandise and expedited LCL services and the growth of freight forwarders bring to the fore the question of abolishing the Railway Express Agency. Everyone agrees the express operation loses money. Some people believe that LCL traffic is decidedly unprofitable. Most railroaders consider forwarder traffic to be very profitable. Inasmuch as all three services perform much the same function, why not do the job in one way only and in a way that converts revenue dollars into profits rather than losses?

In concluding this article, we should emphasize that the history of American railroads is a rich one. That history is full of the notable achievements of railroads and of men. We must be ever respectful of that history and mindful of its lessons—all the while guarding against being bound too tightly by its traditions. We live in a changing world. That old saying "There are only two sure things—death and taxes" no longer holds true. We now face three certainties—"death, taxes, and change." Survival of railroads as privately owned enterprises rests in large part on the ability of management to recognize and accommodate itself to change.

In the field of operations, the Diesel has worked a revolution. Eighteen years ago, progress caught up with the steam engine.

Today, the rapid growth and progress of railroad competition is catching up with the railroads. Only by a willingness to change established methods and policies connected with holding business and developing new business, will the railroads survive in their present form. This article is a plea for constant examination of business-getting policies and methods—a plea that railroads be aggressive and alive to their competition—a plea that railroads get all the business to which they are entitled as the most economic form of mass carriage of goods and passengers—all to the end that every existing railroad revenue dollar will be profitable and to the end that no potential source of profits from railroad revenue dollars be overlooked or go by default to some other form of transportation.

Which Is the Best Stock Average from a Practical Standpoint?

ANTHONY GAUBIS

THERE IS A WIDE DIFFERENCE OF OPINION among people engaged in the profession of security analysis and portfolio management as to whether it pays to look at, let alone study, the action of any of the market averages. One group, including some of the so-called Dow theorists, permits the action of certain market averages virtually to dominate its investment thinking. At the other extreme, we find individuals who scoff at anyone who believes that the action of the market averages can be of real help in arriving at practical investment decisions. As is true of most things in life, it is very doubtful that either extreme view is warranted. Actually, the differences of opinion can be traced to failure to appreciate fully both the limitations and the strong points of the various market averages.

NO PERFECT AVERAGE

Every student of the stock market who takes the trouble to study both the composition and the record of the leading market averages must inevitably come to the conclusion that there is no such thing as a "perfect" or "all-purpose" stock market average. As a practical matter, it is impossible to construct such an index. This is true because of the many insurmountable complications in the selection and weighting of individual securities which, as a group, should be representative of all of the stocks of that particular class of securities that are traded on the Stock Exchange. However, almost every average can and does serve the very useful purpose of helping to give the market student a concise even if rough picture of the action of a cross section of the market, so that he can avoid the very common error of failing to see the woods because of the trees.

From a practical standpoint, it would seem much wiser to restrict any study of the market averages to those confined to a single broad group of equities such as industrials, rails, or utilities, rather than to pay much attention to composites of two or more of these groups. This is particularly true under current conditions when decisions by a single body—the ICC—can be a dominant factor in the rail group, which might therefore move quite independently of the vast majority of listed stocks. Furthermore, the rails are grossly overweighted in some composite averages, and thereby distort the very picture that the averages are intended to approximate.

The New York Times Combined Index, for example, gives the rails a weighting equal to all other industries put together. As for utility stocks, the pattern of taxation and regulation tends to put these issues in the category of medium-grade participating preferreds, rather than among equities in the usual sense of representing ownership of property with theoretically unlimited earnings' potentials

and inflation protection. Comparative studies of averages limited to any one of these separate and distinct classifications can have more value than the performance of a composite of these basically dissimilar types of equities. (We are thinking, of course, in terms of the value of averages to the market student, rather than as measures of the performance of diversified portfolios.) In any event, this commentary will be restricted to the more important weaknesses and strong points of a few of the popular *industrial* stock averages, from the standpoint of the market student who wants to check conclusions drawn from economic studies against the action of the market as a whole.

STANDARD & POOR'S

One of the industrial stock averages which has recently become widely publicized is compiled by Standard & Poor's. The Standard & Poor's Index is constructed by averaging the total value of the common shares outstanding for each of the selected list of companies. This method of weighting the individual issues definitely limits the value of the index from several points of view. It may or may not be a fair measure of the fluctuations in the value of all listed industrial stocks, particularly in view of the popularity waves or cycles which recently have tended to emphasize the companies with large enough capitalizations to insure better-than-average marketability. It is not a good yardstick with which to compare the performance of any diversified portfolio, inasmuch as this average can be, and frequently is, dominated by the action of a few issues of highly capitalized companies.

SMALL HANDFUL OF ISSUES

No investor would be likely, for example, to buy twenty times as many shares of company A as of company B, just because the former had twenty million shares outstanding, while the latter had only issued one million shares. Yet this would be necessary if the portfolio were to follow the principle of weighting used in the construction of this particular index. A recent check shows that, in early September, 10% of the issues in this industrial stock average had a greater effective weight than the other 90%! General Motors and Standard Oil of New Jersey alone accounted for 34% of the index as a whole. Even if an investor decided to place twice as large a proportion of his total fund in the five stocks that make up 51% of this average, these holdings would still represent less than 20% of his total stock investments, and not 51%. Anyone who looks at this average should bear in mind that it primarily reflects the performance of a small handful of issues, because of the emphasis on the size of the corporations whose stocks are included in the average.

The most widely quoted index of stock prices is that computed hourly by the Dow Jones Publishing Company and broadcast throughout the country through news tickers and wire services. This average is constructed by including one share each of the stocks chosen to represent a cross section of the market. This method of compiling a stock market average also has its limitations, of course, in that the effective weighting depends on the relative price per share of each issue included in the average. AT & T, for example, which is currently selling at above 150, has more than ten times the effective weight of another stock that is selling at 14, and seven times the effective weight of an issue selling at 22. In actual practice, a 10% change in the price of AT & T has a greater effect on this average than a 30% to 40% change in the price of the two lowest-priced issues that make up this index.

ANOTHER WEAKNESS

Another weakness in this average is the fact that the effective weighting of individual issues is automatically reduced if and when any stock in the average is split. This means that the relative importance of any component of the average can and does change radically from time to time without regard to any change or lack of change in the importance of that stock as a representative of any group of securities, but merely because the directors of the particular company declared a stock dividend. Unfortunately, most of us who work with the public must follow the progress of this average because it is the only one readily available to many individuals who are not resident in the New York area. I say "unfortunately" because I believe this average has been misleading and harmful as often as it has been helpful, at critical points in the market cycle, in recent years. Whether this is due to occasional manipulation, when penetration of some previously recorded level is expected to bring in increased activity, is a debatable but tenable point. However, a study of the action of this average can be helpful, within definite limits, particularly when used in conjunction with one or more of the other measures of the market as a whole.

HERALD-TRIBUNE

The third industrial stock average which is followed by many successful technicians is that compiled by the *Herald-Tribune*. One of the strong points in this average is the fact that it consists of 70 stocks, so that no one issue can have so large a proportionate weight as composites based on a smaller number of stocks. Furthermore, this average is broken down by industry groups, which enables the short-term market student to analyze, if he wishes, the relative action of the leading groups that make up the 70-stock index. It might be noted, however, that the so-called 70 industrials do include 8 utilities which, in the aggregate, represent about 7% of the 70-stock composite.

The Herald-Tribune Index can be very helpful in studying short-term "waves" and penetrations of near-by resistance points, but it has one important weakness which makes it a poor average to follow in analyzing longer-term fluctuations. This is due to the treatment of stock splits up until about two years ago. Whenever a stock was split, prior to that time, this average was adjusted by including a con-

stant value in that index based on the difference in price between the old and the new shares.

In other words, if a stock selling at 100 were split 4 for 1, from that point on the composite included the fixed sum of \$75 plus one share of the new stock. When split issues had enjoyed an unwarranted advance due to the news of the split (as sometimes happens), future levels reached by the average were distorted because the unwarranted gain was not canceled out with the loss of the temporary pre-split advance. (This is also true, to a lesser extent, in the Dow Jones Industrial Stock Average, of course, but in that index the reduction in the weight of one stock is offset in part by an increase in the weighting of the other issues.) Be that as it may, as previously stated, the Herald-Tribune Industrial Average can be helpful in studying the resistance points and trends over brief periods of time, and may well turn out to be the best average to watch from this point on.

NEW YORK TIMES

The fourth and final average on which we want to comment is that compiled by the *New York Times*. If we are to judge on the basis of performance in actual practice, I believe we would have to conclude that this average is definitely superior to the other averages discussed herewith, from the standpoint of the longer-term market student. The weighting method used by the *New York Times* is in reality a cross between that employed in the construction of the Standard & Poor's Industrial Stock Index and the one followed in making up the Dow Jones Industrial Stock Average. The weightings used for each stock have, as a result of either design or good fortune, proved to be quite sound. Adjustments for split stocks are made in the very logical manner of substituting the equivalent number of new shares for the old stock, so that the average is not distorted if a major portion of any advance due to the announcement of the split is lost subsequent to the issuance of the new shares.

HAS BEEN CRITICIZED

This average has been criticized for giving duPont four times the weighting of the average issue in the 25-stock index, but this criticism does not take into account the fact that duPont is in reality a group of companies, including the direct ownership of almost one-half a share of General Motors for each share of duPont; a leading factor in the textile industry; and a widely diversified producer of chemicals. It seems much more logical to give duPont three or four times the average weighting of other stocks than it does to weight heavily the issue of some company whose business is largely confined to a single industry. In any event, the five issues that make up 20% of the total number of stocks included in this average account for a smaller portion of the effective weighting of the index as a whole than 10% of the issues included in the Standard & Poor's Fifty Industrial Stock Average.

In view of the many considerations involved, conscientious and experienced statisticians could argue for weeks on end without coming to a clear-cut conclusion as to which of the readily available market averages should be the most helpful to the market analyst. Any practical man who listened in on any such discussion might conclude, quite

rightly, we believe, that perhaps the proof of the pudding might be found in the eating. It is from this standpoint that the New York Times Industrial Stock Average stands out in recent years. The practical value or helpfulness of the New York Times Industrial Stock Index might best be shown by comparing the action of this average with both the Dow Jones industrials and the Standard Fifty Stock Index. Figures for all three of these averages are published in one or more of the New York newspapers. (We are leaving the Herald-Tribune average out of the remainder of this discussion because of the past basic weakness, from a long-term point of view, resulting from adding a constant figure in place of fluctuating values, after any splits.) This review is limited to the period since 1934, partly because the technical action of the market, in many respects, has been quite different, since the SEC came into the picture, from what it was before this very important change in our financial setup.

NORMALLY MOVE IN UNISON

All three of these averages normally move in unison, of course, inasmuch as they are all rough measures of the industrial stock market as a whole. It is only when they seem to be giving an entirely different picture that one average can be considered either more or less helpful than the others to the market student who believes that a careful study of the past is essential to anyone who tries to secure some insight into the future. The more significant and interesting deviations recorded by these averages in the past eighteen years may be summarized as follows:

1. The New York Times and Dow Jones industrial stock averages penetrated their February 1934 highs in May 1935, with the Standard average following this lead two months later. However, the Times average started to give an entirely different picture of the market by early 1937, when it failed to move ahead and get above its November 1936 peak, in spite of the pronounced strength shown by both the Dow Jones and Standard industrial averages. In the early months of 1937, therefore, the Times Industrial Stock Index was warning of possible major distribution in the market, even though the other two averages were giving the appearance of clear sailing ahead. At that time, we were on the verge of the second largest bear market on record. Certain timing considerations (which, of course, are just as important to the market technician as are "resistance points") were warning investors that they should be looking for signs of a cyclical peak by late 1936, whereas the Dow Jones and Standard industrial averages were implying that the indicated late 1936 danger period had been successfully negotiated.

2. These three averages again got into gear in November 1937, when they recorded lows for that year within a few days of each other, and subsequently declined to below these levels and reached their final lows on the same day in March 1938. Signs of an important deviation did not develop until the fall of 1939. By that time the Times index, but not the Standard or Dow Jones industrial averages, was able to get above its 1938 high. In view of what was to happen within the next twelve months, a superficial appraisal of this deviation might have led to the conclusion

that the Dow Jones and Standard industrial averages were casting the more accurate shadows of what lay ahead. From at least one point of view, however, this was not true. Virtually all market students are conscious of the fact that no real bull market (one in which average prices advanced 25% or more) had ever run its course in less than fifteen months. On this basis, it seemed quite safe to ignore any signs of possible distribution in the cyclical upturn which got under way in April 1938, until new highs had been witnessed subsequent to June 1939. Market students who were relying on either the Dow Jones or the Standard Industrial Stock Average and were waiting for these indexes to get above their 1938 highs in 1939 or early 1940 waited in vain, whereas those who were following the action of the New York Times industrials saw the minimum duration of a bull market realized when this index penetrated its 1938 high in September 1939.

3. The next important deviation in the action of these three measures of industrial stock prices was witnessed in the spring of 1941. In April and May of that year, the Times average penetrated its 1940 low, thereby indicating that the line of least resistance in the market as a whole was still downward. By holding above comparable 1940 lows, the Dow Jones and Standard industrial stock averages, on the other hand, were giving the impression that the market was ready to go forward. The final cyclical lows for that period were not seen, of course, until April 1942.

4. The Dow Jones industrial average was able to get well above its 1937 cyclical peak in the period December 1945-January 1946. The Standard & Poor's Index gave a similar signal of "all clear ahead" in April 1946, thereby permitting the headline writers to proclaim that stock prices were at the highest levels since 1930. The Times industrials, however, stubbornly insisted that the market as a whole was *not* "in the clear" and was meeting resistance at the 1936-37 highs. (The 1946 peak for the Times industrials was 243.42, compared with the 1936-37 high of 243.60.) Although the subsequent bear market was not so important as that of 1937-38, it was great enough to result in declines in many issues which are yet to be retraced, and a large proportion of listed stocks were to see levels at which the patient, long-term investor could have acquired 2 or 3 shares for the price of 1 share in the spring of 1946.

5. Another important deviation in the picture given by these three averages was seen in 1948. In May of that year, both the Dow Jones industrials and the Standard index were able to get above their 1947 highs, and thereby do their part in giving a "bull market signal," as interpreted by most of the followers of the basic principles of the so-called Dow theory. The New York Times industrials, however, were unable to get above their 1947 highs, and were therefore contradicting the implications of the Dow Jones and Standard industrial stock averages from the standpoint of indicating whether or not previous intermediate resistance levels had been definitely penetrated. Subsequently, followers of the Dow theory had to reverse themselves, at lower prices than those prevailing at the time that the Standard and Dow Jones industrials had given this misleading "signal."

6. Still another significant point of difference in these three averages was the decline in the New York Times and Standard industrial averages, in June 1949, to below the lows touched in the preceding three years. At its extreme low in June 1949, the New York Times Industrial Stock Index was $3\frac{1}{2}$ points below the low touched in October 1946, and the Standard industrials also penetrated their 1946 lows. In contrast, the extreme low for the Dow Jones industrial average in June 1949 was 160.62, compared with an extreme low of 160.49 in October 1946. (We have been using intraday range figures instead of closing prices, throughout this study, because we consider that a price is equally significant, regardless of whether it was recorded early or late in the day.)

The importance of this deviation between the Dow Jones and the other two averages again lay in the implications of the elapsed period between the high and low points of the preceding decline, as well as in the proper timing of the base for any subsequent advances. A good working rule has been that stocks could be expected to have either a sustained or an irregular rise for at least fifteen months, before there was a danger of a decline of cyclical proportions, and that the probabilities generally favored an advance of between twenty-three and twenty-eight months' duration. (In actual practice, this type of timing is calculated from either extreme lows or levels recorded at some date when economic fundamentals suggested that, barring any extraneous development, the groundwork for another major upturn was probably being completed.) The market student who was basing his timing calculations on the Dow-Jones industrial average would have been much more confused about the expectancy of the next cyclical peak than the follower of the other two averages. On the basis of the latter, it seemed safe to anticipate a rising trend in the market for at least fifteen months, or until the fall of 1950; and, if the twenty-three- to twenty-eight-month "rule" were to be observed, an important selling point was not likely to be reached until sometime between May and October of 1951. The latter projection seems to be quite valid at this time, from the point of view of the action of the vast majority of stocks and the

New York Times Industrial Stock Average, which reached its high to date in September 1951.

This brings us up to the present. The New York Times Industrial Stock Index reached a high of 304.96 on September 19, 1951. It has subsequently sold down to 270.21 in May of this year. At its May low, this average was within 1% of the levels touched in March, May, and June 1951. In the summer rally which ended August 11, 1952, the peak for this average was still below its 1951 high—which was also true of the vast majority of industrial equities. In contrast, the Standard Industrial Stock Price Index exceeded its 1951 high in January of this year, and then reached another new high in August. The Dow Jones industrials did not get above their 1951 high until August of this year, but, in doing this, they seem to have given another misleading picture of continued strength in the market as a whole. At the moment, therefore, we would have to say that both the Standard and Dow Jones industrial averages have been telling us that the underlying trend of the market is still upward. On the other hand, the Times average has been warning investors that it might be a good idea to be doubly careful about maintaining positions in stocks that were not purchased as "permanent" investments and about adding to long-term holdings except where the cyclical outlook could be ignored.

There is no certainty, of course, that the New York Times Industrial Stock Index will continue to give a more accurate picture of the market as a whole than the indexes compiled by Standard & Poor's, or by Dow Jones. However, the record does indicate that, from a practical standpoint, market students would do well to pay at least as much attention to the New York Times Industrial Stock Average as they do to the other indexes which gave such misleading inferences on several occasions in the past eighteen years. We doubt whether this or any other type of technical approach should be used except as a supplement or check on conclusions drawn from more fundamental or economic studies. However, we believe that, if and when technical approaches are to be followed, it is important always to keep one eye on the record and to be constantly alert to both the limitations and the strong points of the tools that are employed.

NATIONAL DISTILLERS

PRODUCTS
CORPORATION



DIVIDEND NOTICE

The Board of Directors has declared a quarterly dividend of 25c per share on the outstanding Common Stock, payable on December 1, 1952, to stockholders of record on November 12, 1952. The transfer books will not close.

THOS. A. CLARK

October 23, 1952. Treasurer



THE COLUMBIA GAS SYSTEM, INC.

The Board of Directors has declared this day the following final dividend for 1952:

Common Stock

No. 73, 30¢ per share

payable on November 15, 1952, to holders of record at close of business October 20, 1952.

DALE PARKER
Secretary

October 2, 1952

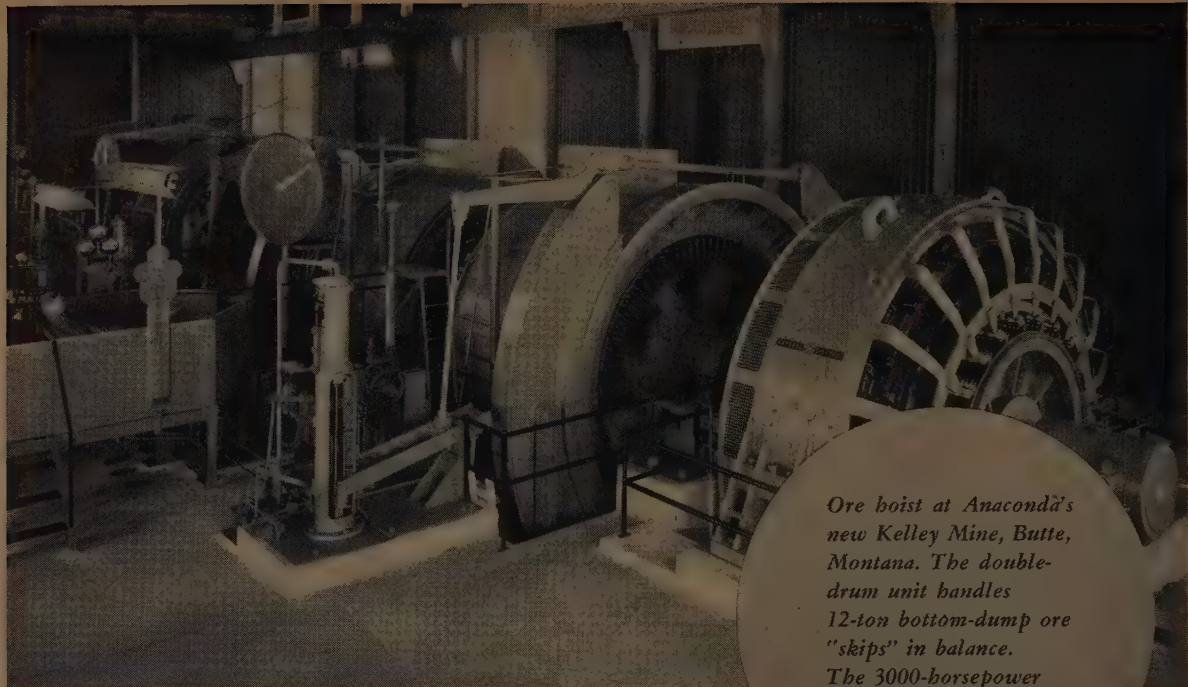
CONSOLIDATED NATURAL GAS COMPANY

30 Rockefeller Plaza
New York 20, N. Y.

DIVIDEND NO. 19

THE BOARD OF DIRECTORS has this day declared a regular quarterly cash dividend of Sixty-two and One-Half Cents ($62\frac{1}{2}$ ¢) per share on the capital stock of the Company, payable on November 17, 1952, to stockholders of record at the close of business October 15, 1952.

E. E. DUVALL, Secretary
September 18, 1952



Ore hoist at Anaconda's new Kelley Mine, Butte, Montana. The double-drum unit handles 12-ton bottom-dump ore "skips" in balance. The 3000-horsepower hoist-motor is regarded as the world's largest.

giving a lift to *Copper Production!*

Right now Anaconda is mining about 6,000 tons of low-grade copper ore every day at the new Kelley Mine, keystone of the Greater Butte Project. Eventual output from this block-caving operation will be 15,000 tons of ore per day.

The Greater Butte Project was undertaken in 1948 to supplement Anaconda's regular output from high-grade ore. When in full production, this \$27 million project will add 90,000,000 pounds a year to America's copper supply. This wealth of copper is all *in addition* to Anaconda's present output!

America needs more and more of man's most versatile metal. The combined defense and civilian demand for copper continues to exceed its availability. Because copper—and *only* copper—does so many defense jobs so well, increased output is essential to the U. S. economy.

The Greater Butte Project is just one phase of Anaconda's vast expansion, improvement, and modernization program. All phases share the same goal: more metals. The achievement of this goal serves the country's military needs today . . . its peace, progress and prosperity in the future.

ANACONDA
COPPER MINING COMPANY

Anaconda Sales Company
The American Brass Company
Anaconda Wire & Cable Company
International Smelting and Refining Company
Andes Copper Mining Company
Chile Copper Company
Greene Cananea Copper Company

Long-Term Trends of Metal Consumption

EDMUND A. MENNIS

DURING THE PAST DECADE the demand for metals, both ferrous and nonferrous, has been very great. Shortages have tended to obscure the fact that the past fortunes of these industries have fluctuated considerably. Therefore, it may be helpful to examine consumption trends of the major metals over an extended period in the past, so that future demand for these metals may be reviewed with a long-term perspective.

In order to provide a measure of the long-term trends in consumption of the various metals, the accompanying chart has been prepared. For all metals except steel, consumption figures were used. For steel, production figures were used in the computations, because net imports or exports have been comparatively small, and most steel produced in the United States can be assumed to be consumed there. Consumption and production data for each year were divided by the annual population estimates of the Bureau of the Census so that the lines plotted represent per capita consumption. In this fashion, allowance has been made for the ordinary growth of the economy and the consequent greater use of the metals concerned. Detailed sources of data are contained in the references at the end of this article.

RATES ARE DIRECTLY COMPARABLE

The data were plotted on a semilogarithmic or ratio chart, so that rates of change in any one series or from one series to another are directly comparable. Because the comparative rates of change are more important than the actual figures for any particular year, no vertical scale for each series has been provided. Much confusion and crossing of one series by another has been avoided; each series has been plotted separately, and rates of change can be measured by the scale provided in the left margin of the chart. The vertical distance between any two points on the chart can be measured on a piece of paper or a ruler, and the percentage increase or decrease represented by that distance can then be measured by the scale, starting at 0.

STEEL

The data for steel practically cover the entire growth of the industry in the United States. In 1864 Bessemer steel first appeared on the American market; open-hearth steel came four years later. In 1850, sixty per cent of American

requirements were provided by British steel; heavy British imports were curtailed by expanding production and a high protective tariff in the early '70's; the United States surpassed Britain as the world's foremost steel producer in 1889.

DIVIDED INTO THREE PERIODS

The growth of the steel industry may be divided conveniently into three phases. The period 1870 to 1900 was marked by very rapid growth as steel answered the need for a general all-purpose, low-cost metal in the expanding country after the Civil War. Steel consumption increased without interruption from 1870 to 1883. Consumption continued to grow at a somewhat less rapid rate until after World War I, each peak in consumption exceeding the previous peak.

The period prior to 1900 was marked by severe competition in the industry among a large number of nonintegrated companies. In 1901 U. S. Steel was formed, and until 1920 the steel industry has been characterized as one of "friendly competition," with prices set by the "Pittsburgh plus" system.

The period since World War I was quite different from the previous half century. The rate of growth decreased, and the fluctuations increased considerably. The 1929 peak in consumption was only slightly higher than that reached during World War I, and the 1929 peak was not exceeded in a peacetime year until 1947. Per capita consumption in 1932 reached the lowest point since 1897. During World War II new consumption heights were reached, and postwar demand also continued strong. In 1951 consumption per capita reached the highest level in history.

COMPLETE EXPLOITATION NOT ACHIEVED

Although the general pattern of growth on the chart clearly indicates an industry in the more mature stages of development, complete exploitation of the potential market does not seem to have been achieved. The 120 million tons of capacity scheduled for 1953 would, if entirely used, exceed 1951 consumption by 28%. Of course this does not mean that consumption *will* increase by this amount, but it does provide some measure of the probable maximum that consumption *could* increase.

Table 1. Distribution of Steel to Major Consuming Industries

Industry	1923	1929	1937	1941	1950
Automotive	12.6%	16.0%	19.0%	15.8%	21.8%
Construction	14.8	18.8	14.6	16.4	17.1
Containers	3.6	4.2	7.8	7.4	8.9
Railroad	25.3	17.8	11.4	9.6	6.6
Machinery & tools	3.1	4.4	4.4	5.4	8.0
Oil, gas, water, mining	10.5	8.9	7.4	4.7	9.2

Table 2. Major Peacetime Uses of Copper

Use	1929	1937	1941	1947
Electric manufactures ^a	22.5%	24.7%	24.5%	24.5%
Telephone & telegraph	14.1	3.5	4.8	5.9
Light & power lines ^b	11.0	9.6	5.9	5.8
Wire cloth and other wire	9.9	13.8	16.6	16.6
Automobiles ^c	11.9	13.0	7.0	7.0
Ammunition	d	d	d	9.7

^aGenerators, electric bulbs, locomotives, etc.

^bPublic utility companies only.

^cDoes not include electric equipment.

^dNot reported separately.

A detailed breakdown of the uses of steel by consuming industries is not available for the period prior to 1923. From that time, however, a change in the product pattern of the industry can be discerned. From 1920 to 1929, heavy steel products (semifinished steel, structural shapes, plates) accounted for roughly one half of total steel production; by 1937 they had declined to less than 40%, and in 1950 these products were only 36% of total production.

CHANGING PATTERN OF CONSUMPTION

Some indication of the changing pattern of consumption within the steel industry can be obtained from Table 1 which reflects the distribution of finished steel to major consuming industries in certain significant years. Of particular interest is the importance of the automotive and construction industries, the increase in the use of steel for containers, and the decline in the demand from the railroads.

The changing consumption pattern in the steel industry reflects a demand for lighter consumer durable goods instead of heavier producer durable goods; the demand for these former products is less cyclical, and the stability of the industry has been improved. Moreover, lighter steel products have higher profit margins than the heavier and semifinished steels. Therefore, the extreme fluctuations in consumption that marked the 1920-1940 period may not be repeated.

COPPER

Copper is quite different from steel in several respects. Many special-purpose steels are produced; there is only one dominant grade of copper. Steel is a general-purpose metal; copper is a special-purpose metal, and on a tonnage basis the amount of copper consumed is less than 2% of the amount of steel consumed.

PEACETIME USES DIFFERENT FROM WARTIME

Peacetime uses of copper are quite different from uses in wartime. Therefore, the line representing copper consumption on the accompanying chart should be examined at first, exclusive of the wartime peaks.

The peacetime growth of copper consumption has not been so great as that of steel. Moreover, before World War I, downward fluctuations in consumption of copper were greater than those of steel, and each succeeding peak was not greater than its predecessor (for example, 1895,

1897, 1910, and 1913). The 1929 peak was the highest for many years, and the 1937 recovery did not come so close to the 1929 peak as the 1937 steel recovery. Moreover, from 1942 consumption per capita decreased steadily, and in 1949 consumption per capita was below that of 1929. This was quite different from the experience in steel.

One of the most significant factors about copper is the tremendous demand engendered by wartime requirements. World War I and World War II consumption was well above that of peacetime periods, and the present wartime demands put a sudden end to the decline in consumption that prevailed since 1942. In earlier years shell casings were an important military use of copper; now most shell cases are being made out of steel. However, in electric equipment and electronic fields, military requirements have increased considerably. For example, each 155-millimeter howitzer uses about one-half ton of copper, brass, and bronze; tanks contain from one-half to one ton of copper. A B-47 uses about one ton of copper and copper-based alloys; in ships the requirements are much higher. A high level of copper consumption seems assured during the present semiwar period.

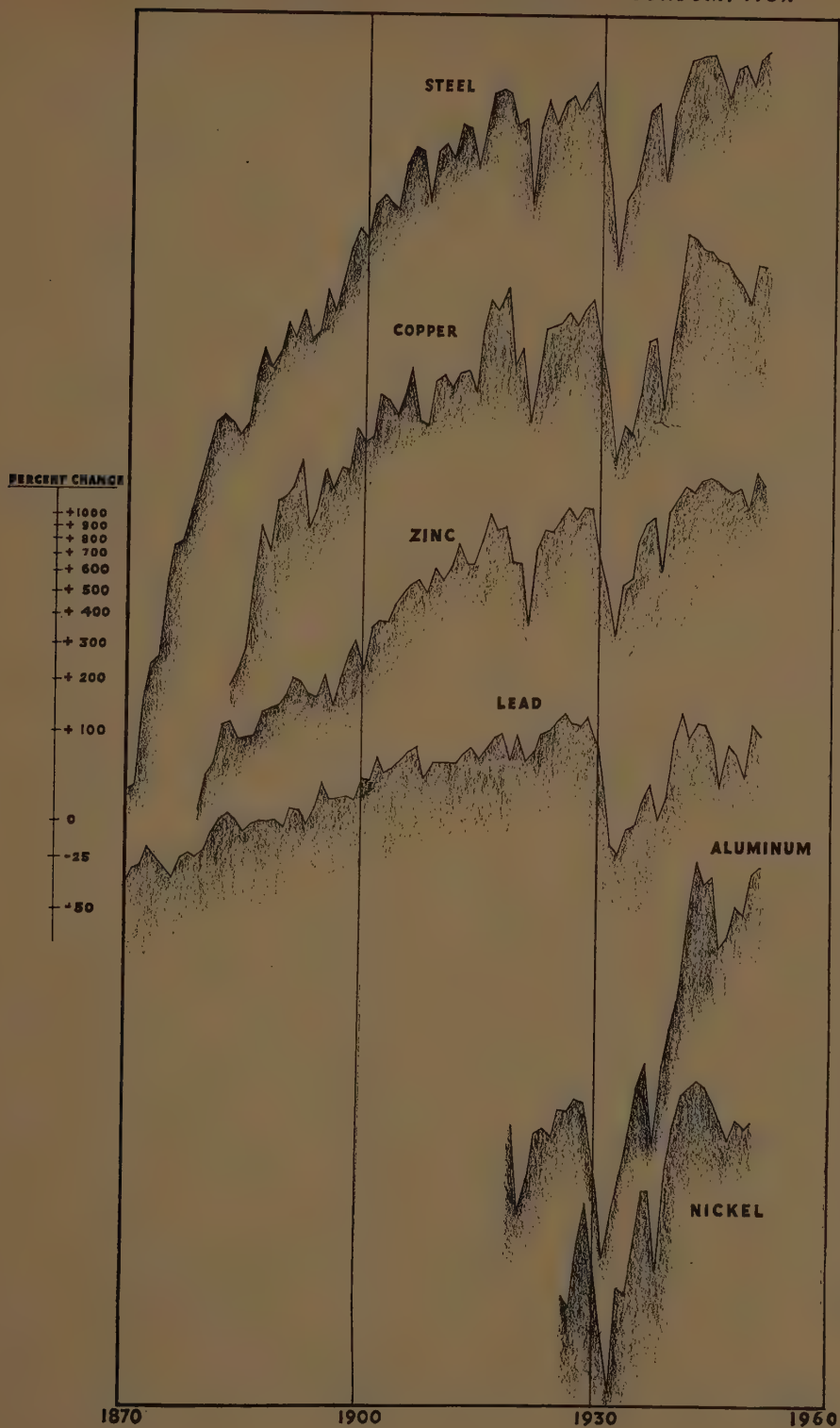
Only moderate gains in the availability of new copper supplies are anticipated. Expansion of U. S. output plus imports now contemplated by 1956 would, if all consumed, increase 1951 consumption by slightly more than 20%. In Table 2 the major peacetime uses of copper are indicated for certain significant boom years. Of particular interest in copper consumption has been the increase in miscellaneous uses, which in 1947 were about one sixth of all uses. These uses include clocks, watches, water heaters, washing machines, and coinage.

For the immediate future, the consumption of copper will be limited only by the ability to procure it. From a longer peacetime point of view, copper consumption on a per capita basis probably will continue at high levels because of increased use for electric machinery and electronic devices. Although much publicity has been given in recent months to the use of aluminum as a substitute for copper, this switch is apparently caused by a shortage of copper rather than the greater desirability of aluminum.

ZINC

Although the consumption of zinc has followed a similar pattern to that of copper and steel, the rate of growth has

UNITED STATES PER CAPITA METAL CONSUMPTION



not been so rapid. Before 1899 the growth of both steel and copper was much greater than that of zinc. From 1899 to 1929 the zinc consumption rate was equal to that of copper but less than that of steel. The drops in consumption in the depression years of 1930-32 and 1938 were not so great for zinc as for steel and copper, and the 1950 peak for zinc exceeded that of all other years, including the periods of World War I and World War II. Although 1951 consumption decreased from the 1950 level, consumption still remained the second highest for a peacetime year on record.

As might be expected, zinc consumption increased in wartime, primarily because of the use of zinc with copper to make brass for ammunition. However, use of steel castings for shells should reduce the demand for zinc for this purpose.

The major demand for zinc is for galvanizing; the iron and steel industries are the major consumers. Although the percentage of zinc used for galvanizing has shown little growth over the past two decades, it accounts for the largest amount of zinc consumed, about 45%. Brass making formerly was the second most important use of zinc; in 1929 this use accounted for 29% of the slab zinc consumed. However, this use has been of decreasing importance; in 1950 about 15% of slab zinc was used for this purpose. The largest increase in use for zinc is in die casting, which increased from about 6% of consumption in 1929 to slightly less than 30% in 1950.

With respect to future use, galvanizing is faced with a competitive threat from nickel plating, electrolytic tinplating, lead coating, and perhaps plastic coating. Rolled zinc use appears to have little growth prospects, and zinc oxide is encountering competition in the pigment field from titanium oxide. The major growth in use in recent years has been in die casting.

LEAD

Lead has the least favorable growth trend of any of the metals considered and also the trend with the least fluctuations. Increase in consumption per capita was at a fairly constant rate until 1926, when a peak was reached that has not since been exceeded. The drop from 1929 to 1932 for lead was greater than that for zinc but not so great as that for steel and copper. However, the recovery to the 1937 peak was the least favorable of any of the metals. A peak was reached in 1941 which was very slightly below the 1926 peak, and consumption since then has declined gradually; 1950 consumption per capita was less than that of 1941, 1943, or 1947.

The 1955 lead supply, which includes U. S. production,

Table 3. Major Uses of Lead

Use	1929	1937	1941	1950
Storage batteries	21.6%	28.2%	23.3%	32.7%
Cable covering	22.7	13.6	16.5	11.5
Pigments ^a	15.4	21.0	16.2	10.6
Buildings ^b	9.9	6.6	9.0	6.1

^aRed lead, litharge, white lead.

^bChiefly pipe sheets and extensions.

imports, and scrap, is expected to be not more than 11% of the 1949 supply. Consumption of primary lead, shown on the chart, should increase less rapidly.

The principal uses of lead have been for storage batteries, cable covering, the pigment industry, and the building trade. A breakdown of major uses in significant years is given in Table 3. Several interesting relationships are shown by the table. Storage battery use has continued to increase on a percentage basis, and this has also occurred on an absolute tonnage basis. Cable coverings have shown the largest decrease, reflecting first the limited expenditures of the public utilities in the first decade of the period covered and then a tight lead supply, which resulted in the use of alternative materials for cable coverings, such as aluminum and plastic sheathing. In 1951 consumption for storage batteries and cable covering was much the same as in 1950. Pigment use has also decreased, reflecting changes due to price and to the development of alternative pigments, such as those with a titanium base. Use for tetraethyl gasoline is one of the few that has increased; data for 1929 and 1937 were not reported separately, but tetraethyl use accounted for 4.7% of consumption in 1941, 9.4% in 1950, and 10.9% in 1951.

Use of lead for atomic energy purposes cannot be determined for the future. This seems to be the area of greatest possible development for future lead consumption; otherwise it seems doubtful that per capita consumption over a period of years will show even the slow growth that existed before 1926.

ALUMINUM

Data on the aluminum industry cover a much shorter period than that of the four metals previously discussed. The commercial history of the metal may be traced back to 1886, but it was not until World War I that reduced prices and wartime demand stimulated production sharply. Consumption data are not available for the period prior to 1920, but production statistics indicate an increase of about twenty-five-fold from 1901 to the 1920 peak.

In terms of consumption per capita from 1920, the growth of aluminum has been spectacular. The increase in consumption from the 1920 peak to 1928 was greater than that of any other metal; aluminum was the only metal other than nickel in which consumption in 1937 exceeded predepression levels; the growth from the peak in 1937 to the peak in World War II was more than double that of any other metal; the 1943 peak was about nine times that in 1937. A moderate postwar period of indigestion can be seen, but the increase from the 1949 low has been greater for aluminum than for any other metal considered. Aluminum and steel were the only two metals studied in which 1951 consumption exceeded that of 1950.

Present expansion plans for the aluminum industry indicate that the aluminum supply available in the United States by 1954 would be about 2 million tons, roughly double the consumption in 1951. Again this does not assure that all available aluminum will be consumed, but it does provide some measure of the maximum growth possible.

A breakdown of uses of aluminum products is not available for a long period. However, certain data available are

Table 4. Uses of Aluminum

Use	1938	1949	1949	1950
Building construction	8%	18%	17%	19%
Transportation (land, air, water)	29	13	17	18
Electric conductors	10	6	8	8
Machinery & electric appliances	15	13	5	4
Foundry & metal working	4	25	23	23
Cooking utensils	14	9	7	6

given in Table 4. Although these categories are not specific enough to permit accurate determination of end use, wartime application (particularly for aircraft), and peacetime use in building, the transportation, electric appliance, canning, and chemical industries should insure favorable consumption trends in the years ahead. The relatively low price of the metal, abundant raw materials, and the ease and low cost of handling aluminum in fabrication strengthen the industry's competitive outlook.

NICKEL

Another metal for which consumption statistics are not available for a long period is nickel; data used represent the estimated nickel content of nickel production imported for consumption in the United States. Nickel consumption increased rapidly until 1929, but the drop to the 1932 low was greater than that of any of the metals considered. As with aluminum, however, the recovery to the 1937 peak was above the 1929 level, and a tremendous impetus was given to consumption by World War II. The postwar experience has not been so favorable as for the other metals; nickel was the only metal that did not experience a marked increase in consumption in 1950. Although nickel is the only metal for which 1951 data are not available, it seems probable that per capita consumption decreased from 1950 to 1951.

375 MILLION POUNDS A YEAR AVAILABLE

Estimates of nickel productive capacity after present expansion plans are completed indicate an availability of 375 million pounds a year for the world outside the "Iron Curtain." This is a 41% increase from the pre-Korea output.

Detailed breakdowns of nickel uses over a period of years are not available. However, for certain postwar years the data in Table 5 may be of interest. Ferrous use includes stainless and other steels as well as cast iron. Nonferrous uses include copper-nickel alloys, nickel-silver, brass, bronze, beryllium, magnesium, aluminum alloys, Monel, Inconel, and malleable nickel. Alloys include high-temperature and electrical-resisting alloys.

Future trends in nickel consumption are hard to evalu-

ate. As the table indicates, major uses are in stainless steels and nonferrous alloys. Titanium, even if available in large quantities is believed not to lend itself to alloys comparable to nickel. In any event, the competition from other metals probably will be greater in the years ahead.

Sources for the data used in the chart are as follows:

POPULATION

- 1870-1945 *Historical Statistics of U.S.*, Bureau of Census, Series B-31, page 26.
- 1946-1950 *Statistical Abstract*, Bureau of Census Annual Series B-31.
- 1951 Estimate from Bureau of Census data.

STEEL (Production of steel ingots and castings)

- 1870-1945 *Historical Statistics of U.S.*, Bureau of Census, Series J165, pages 186-187.
- 1946-1949 *Statistical Abstract*, Bureau of Census Annual Series J165.
- 1950-1951 *Steel Facts*, February 1952, American Iron and Steel Institute, page 2.

COPPER (New copper withdrawn from year's supply on domestic account)

- 1883-1929 *Production Trends in the United States*, Arthur Burns, National Bureau of Economic Research, 1934, pages 300-301.
- 1930-1937 *Minerals Yearbook*, Bureau of Mines, annually.
- 1938-1950 *Commodity Yearbook 1951*, page 101.
- 1951 Estimate from Copper Institute of America consumption report for 1951 quoted in *Wall Street Journal*, January 17, 1952.

ZINC (Slab zinc consumption)

- 1873-1929 Burns, *op cit.*, pages 298-299.
- 1930-1945 *Minerals Yearbook*, annually.
- 1946-1949 *Commodity Yearbook 1951*, page 360.
- 1950-1951 *Review of Zinc Industry in 1951*, American Zinc Institute, page 12.

LEAD (Refined primary lead available for consumption)

- 1870-1928 Burns, *op. cit.*, pages 294-295.
- 1929-1936 *Minerals Yearbook 1937*, page 180.
- 1937-1945 *Lead, Industrial Data Sheet*, National Industrial Conference Board, Table 14.
- 1946-1950 *Commodity Yearbook 1951*, page 195.
- 1951 Estimate based on primary and secondary lead consumption, *New York Times*, December 16, 1951.

ALUMINUM (Apparent consumption)

- 1920-1949 *Aluminum*, First Boston Corporation, 1951, page 76.
- 1950-1951 Letter from National Industrial Conference Board, May 1, 1952.

NICKEL (Nickel content of nickel products imported for consumption in U.S.)

- 1926-1947 *Minerals Yearbook 1948*, page 885.
- 1948-1949 *Minerals Yearbook 1949*, page 844.
- 1950 Estimate from data supplied by letter of National Industrial Conference Board, May 1, 1952.

Table 5. Uses of Nickel

Use	1945	1948	1949	1950
Ferrous	60.9%	45.2%	42.0%	46.0%
Nonferrous	27.5	30.0	27.7	32.0
Alloys	4.1	6.6	5.9	7.0
Electroplating	6.6 ^a	15.9 ^a	21.3 ^a	8.0 ^b

^aAnodes and solutions.

^bAnodes only.



we're "growing" more **N** at Dixie!

That's the big news at CSC—more nitrogen. A 20-million-dollar expansion program, now under way at our Dixie Plant in Sterlington, La., calls for doubling ammonia production and for providing the fertilizer industry with twice as much nitrogen as before.

Here, then, will be one, dependable, basic source for nitrogen in its three key forms—Anhydrous Ammonia, Nitrogen Solutions, and Ammonium Nitrate.

Anhydrous and Solutions are now being supplied the trade in quantity. Ammonium Nitrate will be produced by the new, exclusive Stengel process developed by CSC Research. This new method will enable us to supply the

product sized to your specification. CSC's Ammonium Nitrate will be marketed the last half of 1953.

For further information write Nitrogen Department, Agricultural Chemicals Division, Commercial Solvents Corporation, 260 Madison Avenue, New York 16, N. Y.



ANHYDROUS AMMONIA • NITROGEN SOLUTIONS • AMMONIUM NITRATE
TECHNICAL BENZENE HEXACHLORIDE • DILAN® • ETHYL FORMATE • METALDEHYDE

An Advance in Medical Chemistry

HOWARD A. SUMNER

THE WORLD IS FULL OF A NUMBER OF THINGS: men and machines, flora and fauna, cabbages, and a few ex-kings. These things we can see. But there is a vaster world quite invisible to the naked eye. It is the world of microorganisms. It, too, has its flora and fauna, its benevolent creatures, and its fierce enemies of man.

The number of these creatures is legion—more than legion. It is doubtful if even those mathematical wizards of Washington, who so terrify us with their prattle of billions upon billions, could envision the hosts of the sub-world. They are more than billions, more than trillions; maybe googols or googolplexes might express their vastness. Suffice it to say, we mere people are badly outnumbered.

These minuscule denizens are organized. There are species, races, nations, army groups, divisions, companies, and individuals. They range from the submicroscopic viruses and rickettsiae, about 1/100,000 of an inch in size, through bacteria and protozoa to the yeasts, molds, and algae.

SOME BRING US BLESSINGS

Some of these Liliputians bring us such blessings as October nut brown ale and the nourishing wines of Burgundy. Others perform much more astounding feats. For example, man has not yet learned to harness the energy of the sun in such a way as to provide him with the good things of life. Still, some of these little creatures have for centuries been doing precisely that and have converted the sun's energy into the foods necessary to our existence. These are the good microbes.

OTHERS DEATH AND DESTRUCTION

There is, however, another group of wee things. They curse us with death and destruction. These evil ones we call disease germs. Perhaps we should include parasites, because the tsetse fly that kills our beef, the bug that destroys our tomatoes, and the flea that brings us typhus are all pernicious enemies of ours.

Man has suffered from the attacks of these malignant midgets since his creation. It is war, and sometimes the enemy has almost won. The outbreaks of black death and epidemics of yellow fever are examples of closely fought battles.

But even though man was, for hundreds of centuries, ignorant of the existence of germs, he has fought back. The early weapons were primitive and crude. The witch doctor with his mask and drum was trying to drive the invading devils from the body of the victim. Sometimes the patient was whipped, or the doctor would wrestle with the sick man. All these procedures were accompanied by a great deal of noise and were intended to frighten away the evil spirit. Fumigation was sometimes used. The burning of buffalo hair would create a sufficient stink to cause almost any devil to depart forthwith. Another practice was to try

to transfer the jinx to another, to some inanimate object or, better still, to an enemy. Very satisfying if successful.

Drug and chemical weapons were used by the ancients. Mercury, sulfur, iodine, carbolic acid have all been used to fight bacterial invaders of the human body. The trouble with these weapons is that they are just about as destructive of friend as of foe. Hence, men have always been seeking greater knowledge and more effective weapons.

LEENWENHOEK

Toward the latter part of the 17th century, there lived in the town of Delft, Holland, a man called Anthony Leenwenhoek. He must have been something of a politician because he was appointed janitor of the city hall. The duties not being arduous, Tony adopted the hobby of grinding lenses. As the years passed, he developed the skill to grind most excellent lenses. Some of these made very small things look large. One day he squinted through his home-made microscope at a small drop of clear rain water. Imagine his excited voice, "Come here! Hurry! There are little animals in this rain water. They swim! They play around! They are a thousand times smaller than any creatures we can see with our eyes alone." The microscopic world had been discovered.

It was about two hundred years later that the Frenchman, Pasteur, established the fact that many human diseases were due to bacteria. He did more. He advanced the idea of fighting germs with germs. He learned to make us immune to the attacks of certain bacteria and thus established the science of immunology.

And then came a young German named Paul Ehrlich. He was interested in finding weapons with which to fight germs. More than that, he was a scientist and dreamed not only of finding weapons by the cut-and-try process but of creating those weapons by chemical means. The German chemists had just made the synthetic dyes and thus ruined the indigo industry.

Ehrlich believed that, if enough were known about the chemical characteristics of a microbe, it would be possible to create a synthetic chemical molecule that would destroy that germ and leave other cells unharmed. This idea was called the theory of selective toxicity or selective affinity. The ideal would be to create one chemical to destroy the bacteria of pneumonia, another to destroy the bug of typhoid fever, another for tuberculosis, and so on. Ehrlich did create some of these molecules. His most famous one was 606, the weapon that conquered the dread spirochete of syphilis.

These men and many more loosed a flood of knowledge valuable in our fight against bugs.

The discovery of the antibacterial powers of the sulfa drugs was a great victory. Whereas the older weapons such as iodine destroy the bacteria by a violent toxic action against the body of the germ, the sulfonamides exert

a more subtle effect. They interfere with the reproduction of the organism, thus enabling the defensive mechanisms of the body to overwhelm the bacterial army and to destroy it.

DISCOVERY OF PENICILLIN

The next notable triumph in our war on germs was the discovery of penicillin. This was quickly followed by the finding of other potent antibiotics. These substances are natural products of complex and usually unstable chemical structure. They were discovered by the empirical method of screening thousands upon thousands of samples until a material was found that gave the desired effect.

With the sulfas and the antibiotics, it looked as though the doctors had the ultimate in weapons, the atomic bombs of bacterial warfare. But those who thought our war with germs all but won reckoned without the versatility of the enemy.

GERMS DEVELOPED RESISTANCE

The germs themselves developed resistance to these new drugs. They adjusted their lives just as men do under adverse circumstances and learned to live in spite of the new weapons. Certain strains of germs have been developed which not only can live in the presence of antibiotics but thrive on them. This means that the new arms are gradually becoming less and less effective. In addition, as these drugs are more widely used, disadvantages have appeared. Side reactions such as nausea and vomiting, diarrhea, skin eruptions, kidney damage, and other toxic manifestations are among the troubles encountered. Lack of stability is another problem with the antibiotics, and their complex chemical structure makes it difficult to determine the exact chemistry of their action and to modify them to get a desired result.

So the doctor has potent antibacterial arms. However, the weapons to end the warfare between men and microbes are not here.

The war against the numberless, versatile, and ever-changing host of germs requires a most intimate knowledge of the enemy. We must deal with each group of viruses, rickettsiae, Gram-positive bacteria, Gram-negative bacteria, protozoa, fungi, and so on. We must know particularly about their lines of supply.

All microbes must receive food in order to survive, reproduce, and wage successful battle against man. The food or energy is delivered by a system somewhat analogous to the supply system of an army. From the point of origin to the site of use, a variety of modes of transport is used, and many transfer points intervene.

The microbe chains of supply are called enzyme systems. A very special and comparatively new branch of chemistry, enzyme chemistry, is devoted to discovering the secrets of such biological lines of communication. If we can destroy one of the transfer points or entice one of the carriers of an essential ingredient onto a wrong road, we deprive the enemy of his means of sustenance, his reinforcements, and eventually his life.

Chemical molecules are our task force. They must proceed to the proper crossroads and either destroy the enemy or by deceit lead him to his destruction. This requires

troops especially equipped to do the job. So our success against the microbes depends on an Intelligence Department manned by enzyme and biological chemists and an Operations Department of synthetic organic chemists able to supply specifically trained and equipped molecules capable of destroying the enemy. And so we see that our ultimate victory over the germs depends on chemistry, more chemistry, and still more chemistry.

Ehrlich said, "The ideal weapons against bacteria would be a group of relatively simple chemical compounds, the constitution of which could be changed to alter their effects and to provide a specific weapon for each job." This is creative chemistry.

CHEMICAL MOLECULES REPLACE NATURE'S PRODUCTS

Chemical molecules, tailored to definite specifications, have often replaced natural products with a better and more suitable material. Synthetic dyes and fertilizers, artificial fibers and rubber, and man-made plastics are examples. In the field of medicine, the synthetic barbiturates have usurped many of the uses of opium and its derivatives. The sulfonamides have eliminated the need for certain vaccines and serums. Atabrine has made the need of quinine less urgent. Still, the creation of synthetic molecules to treat disease has hardly started. The science of chemotherapy is in its infancy.

The basis of research in our laboratories at Norwich is the creation of synthetic organic chemicals useful in combating disease. When the program was started fourteen years ago, the vast field of already existing knowledge was reviewed. It was found that, since the science of synthetic organic chemistry was born, probably 90% of the research had been concerned with compounds based on the benzene ring. There were many other nuclei around which to build organic molecules.

One of the most interesting was the furan ring. There had been comparatively little investigation of chemicals based on this nucleus. Furan compounds occurred widely in nature. A cheap raw material, furfural, obtainable from farm wastes such as corncobs and oat hulls was readily available. There was some evidence that certain furan chemicals possess antibacterial properties. These facts indicated an almost virgin and unexplored chemical area with exciting possibilities. We chose it as the major field for Eaton research.

Hundreds of furan compounds were synthesized. They were screened in the laboratories, and many interesting results were observed. One day a young bacteriologist rushed into the chemical laboratory waving a test tube of clear liquid and shouting, "What is NF-2? It works!"

A code book was found and it was determined that NF-2 was one of the first of a certain type of furan molecule ever made. This type of molecule is referred to as a nitrofur, and the young bacteriologist had found that it prevented the growth of virulent bacteria in the amazing dilution of one part chemical to 200,000 parts of solution.

The scientists made and tested many nitrofurans, and finally two of the most promising were selected for trial on humans. They were sent to a base hospital in England where great difficulty was being experienced in controlling infections of wounds incurred in the Normandy invasion.

The report came back that one of these compounds was particularly effective. It was further tested in American hospitals and medical schools. This synthetic antibacterial chemical is today widely used by physicians and veterinarians and is known as nitrofurazone or Furacin.

A WIDE-SPECTRUM ANTIBACTERIAL

Nitrofurazone is what is known as a wide-spectrum antibacterial. It is effective against an unusually great variety of germs. Unlike most of the earlier weapons, it is harmless to normal body cells. It is not destroyed by heat and time as are the antibiotics. Most bacteria have so far been unable to learn to live in the presence of this drug. It has the added advantage of simple chemical structure. Its molecule contains 20 atoms whereas the penicillin molecule contains 41 and the streptomycin 77.

Another quite unexpected use has been found for nitrofurazone. Dr. Paul Harwood of Ashland, Ohio, while seeking means of controlling the costly disease of coccidiosis in chickens, tried Furacin and found it to be a specific for this condition. It is now used as an ingredient in poultry feeds to prevent disease and promote growth.

The widely prevalent disease of mastitis in dairy cattle is also being successfully controlled with Furacin.

RESULTS WERE ERRATIC

As soon as the efficacy of Furacin in controlling so-called surface infections was established, attempts were made to utilize it in fighting germs inside the body. It was administered by mouth and injected into the bloodstream. Some patients were quickly cured, but others showed no improvement. The results were erratic and therefore quite unsatisfactory.

"Why?" asked the researchers. "We must know more about the chemistry of this drug, more about just how it works." Then began a six-year search to learn how these new drugs did their work. Gradually more and more knowledge was accumulated on precisely how and where the nitrofurans interfere with the life cycle of microorganisms. Much was learned about the infinitely delicate and minute chemistry by which certain bacteria live. So much was learned, in fact, that it has become possible for the chemists from their knowledge of the chemistry of the nitrofurans, and their knowledge of the life chemistry of

an organism, to draw a plan for a chemical molecule which should destroy that organism and with a minimum of undesirable side effects. Then the molecule is built.

This approaches the dream of the pioneers in chemotherapy. It is a true scientific approach based on accurate and detailed knowledge compared to the empiric method of trying many substances until one is found that works. True, we are still far from the ideal of pure science. Progress continues to depend on a combination of the scientific and the empirical, but a significant advance has been made, and, as far as the war against microbes is concerned, new weapons are here. Nitrofurans possessing specific affinities and suitable for internal use are ready, and more are on the way.

EFFECTIVE AGAINST TOOTH DECAY

A nitrofuran especially effective against the germs that cause tooth decay has been built. Another of these synthetic molecules has the characteristic of quickly entering the urinary tract without an accompanying concentration in other parts of the body, and it is highly lethal to the type of germs that causes most of the diseases of this area. There is one that attacks the so-called Salmonella bacteria. These bugs are usually found in the stomach and intestines and cause such diseases as gastroenteritis, diarrhea, typhoid fever, and gastrointestinal hemorrhage.

FURAN ETHER FOR FIGHTING MOLDS

A furan ether has been found to be one of the most effective killers of the type of microbe that causes athlete's foot, barber's itch, ringworm, and jungle rot. This chemical may also be useful in fighting molds that cause great damage to animals and agricultural crops. Truly we can agree with the various important men in medical research who state that the development of the nitrofurans is a definite advance in our war against germs.

The possibilities of the furan chemicals in medicine extend to many other uses. Compounds have been found that possess anesthetic properties. There are antihistamines and hormone-like substances, and there is evidence that some of these drugs have an effect on certain types of cancer tissue. All of these possibilities are being carefully studied, and you can expect to hear more in the future about furan medicines.

SUBURBAN PROPANE GAS CORPORATION

REGULAR QUARTERLY
DIVIDEND NO. 27 DECLARED

Common Stock—30¢ per share

Payable November 15, 1952 to stockholders of record October 31, 1952.

R. GOULD MOREHEAD,
Treasurer

October 15, 1952

DAYSTROM Incorporated

Elizabeth, N. J.

DIVIDEND NOTICE

The Directors of Daystrom, Incorporated (formerly ATF Incorporated) on September 23, 1952, declared a regular quarterly dividend of 25 cents per share, payable November 15, 1952, to holders of record October 24, 1952.

It's every American's right and duty to vote—be sure you vote November 4th.

Operating Units:

■ AMERICAN
TYPE FOUNDERS
★
DAYSTROM
ELECTRIC CORP.
■
DAYSTROM
FURNITURE DIVISION
★
DAYSTROM
INSTRUMENT DIVISION

DELTA REPORTS A

Constant Rate of Climb

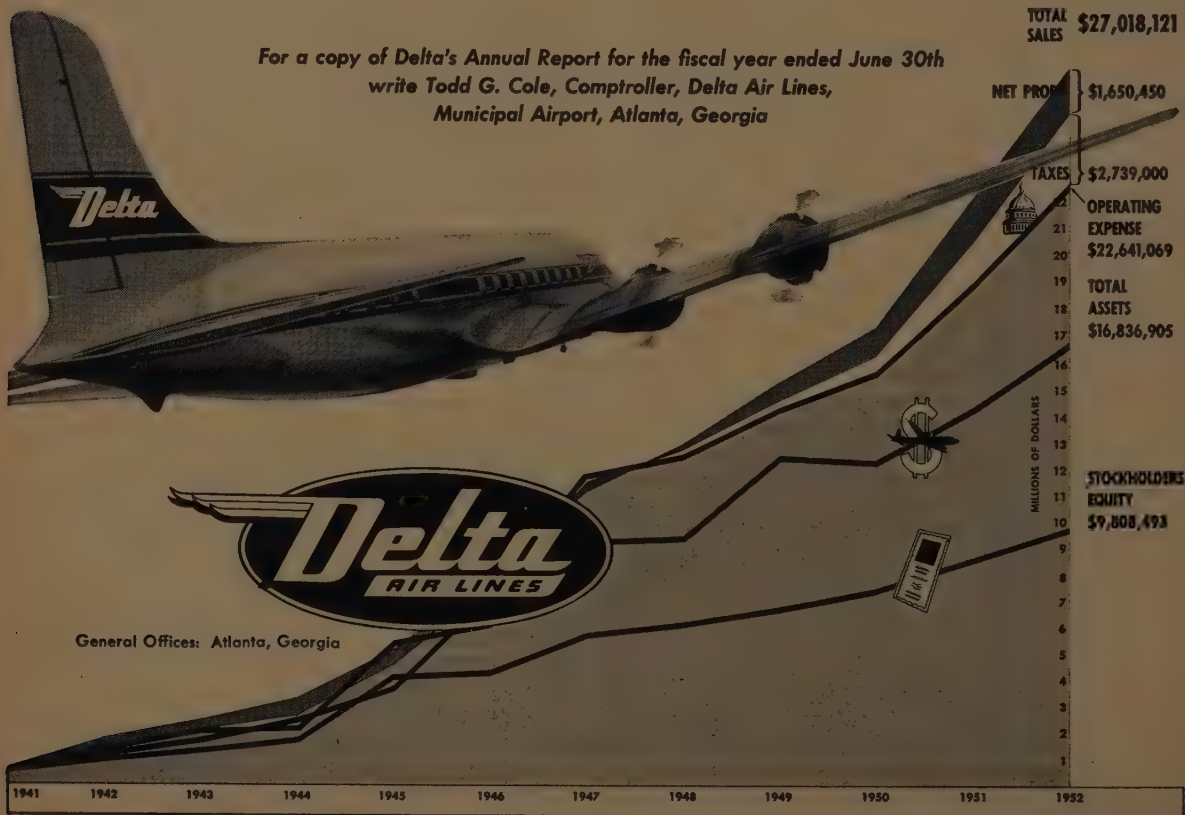
CONTINUING a steady growth since 1940 and extending the sharp climb begun last year, Delta's sales curve is synchronized with the expanding economy of the New South.

Costs all along the line have increased and the growing needs of our government have resulted in a 69% rise in taxes. In spite of this and a 21% reduction in mail pay (for carrying 25% more ton-miles of mails) Delta has shown an increase in net profits. Mail pay now represents less than 3½% of total revenue and Delta is completely removed from the subsidy class of carrier.

Delta's modern, high speed air service continues to win new friends and influence profits. Passenger miles were up a whopping 24% with nearly a million (940,120) passengers.

To provide more complete coverage of the South and permit continuation of the present upward course, Delta and Chicago & Southern Air Lines have an application before the Civil Aeronautics Board to merge the two companies. A hearing has been held and C.A.B. bureau counsel has endorsed the proposal. If approved by the C.A.B. and the stockholders of the two companies, the consolidation would result in added volume and greater economies which would benefit the traveling public.

New equipment on order—10 Convairs and 4 Douglas DC-7's for delivery in 1953 and 1954, respectively; plus 10 more Convairs for Chicago & Southern—will find both lines prepared for the continued growth of this great land.



Revenue Bond Financing for Airport Improvements

JAMES C. BUCKLEY

UNTIL FIVE OR SIX YEARS AGO the subject of revenue bond financing for airport improvements would have had little more than academic interest even for airport people. Today, however, there is no subject, with the possible exception of future Federal appropriations for airport aid, that bears so directly on the volume and type of municipal airport improvements which may be expected in the next five to ten years.

The explanation is simple. Today municipalities have a pressing need for airport improvements which will cost hundreds of millions of dollars. Most of them, however, have an even more pressing need for streets, schools, sewers, libraries, hospitals, and other essential municipal facilities. And there is not enough margin within the limits of their general obligation debt to go around. A substantial portion of the needed airport improvements will not be made unless they can be financed outside the debt limit with some type of revenue obligation.

This situation is in large measure a result of World War II. Compressed into the five war years was a fourfold increase in air passenger traffic, and increases in the size and weight of transport aircraft which otherwise might well have taken a decade—or even longer. Yet there was almost no improvement of civil airports during the war years, except at those locations used in whole or in part by the military.

At the beginning of the war, the civil airport system was geared generally to the modest requirements of the DC-3 aircraft. This meant a required runway length at sea level of only 3,300 feet, a pavement strength adequate for aircraft with a gross weight of only 25,000 pounds, loading positions with a diameter of only 125 feet, and terminals geared only to the peak-hour loads of a 21-passenger aircraft serving an annual air travel market of only 3,500,000 people. Such relatively small and inexpensive facilities could usually be provided with proceeds from the sale of general obligation bonds without serious conflict with other municipal requirements.

At the close of the war, however, substantially the same civil airport system was faced with the problem of meeting the greatly increased physical requirements imposed by a fourfold increase in air traffic and the introduction of the DC-4, the DC-6, and the Constellation aircraft. This meant a required runway length at sea level of about 5,000 feet, a pavement strength adequate for aircraft with a gross weight of up to 100,000 pounds, loading positions with a diameter of up to 160 feet, and terminals geared to the peak-hour loads of up to 58-passenger aircraft serving an annual air travel market of more than 12 million people. Small wonder, therefore, that terminal facilities at major

air centers bulged at the seams, that makeshift expansions were accomplished at many locations, and that scores of certificated air line stops were without service entirely, or served only on a restricted basis, because of inadequacies in landing area facilities.

Airport planning naturally became a common topic of conversation in hundreds of communities—planning not just for the needs of the immediate postwar period, but also for the needs of the stratocruisers, the DC-6B's, and the Super-Constellations we have today, and for the needs of the even larger and heavier aircraft of the more distant future. With this planning came the first real appreciation of the astronomical increase in municipal investment that would be required to provide an adequate system of civil airports.

The city of New York discovered that the development of Idlewild would require an ultimate investment of perhaps \$200 million, approximately ten times its investment in the much smaller La Guardia Airport—and soon realized that the city's capital budget could not stretch to cover anything like this amount of airport debt. So, too, the city of Newark discovered that it would cost \$55 million to redevelop Newark Airport, more than five times the city's original investment in the facility.

The city of Detroit discovered that it would cost \$20 million or more to construct a new airport to replace the obsolete Detroit Municipal Airport. Unable to provide such a facility, Detroit still uses Willow Run Airport, 38 miles away, for scheduled air service.

Philadelphia initiated a development program for its Southwest Airport which ultimately will require the investment of \$50 million, much of which still remains to be appropriated. Cleveland submitted an airport terminal bond proposition to the voters three times before securing approval, and this development is now threatened by the specter of insufficient funds due to sharp increases in construction costs.

In large and small communities from coast to coast and from border to border, the story has been the same. The problem has been helped to some extent by grants in aid from the Federal Government under the Federal Airport Act which became law in 1946. But the dwindling appropriations under this Act and the increasing requirements of civil aviation leave a growing balance of needed local investment in civil airports. Much of this will be financed, if at all, only on the security of the basic earning power of airport facilities.

The financing of airport improvements with revenue bonds presents an opportunity for the bond dealer to perform a real public service both by helping a community to

secure now the needed airport improvements that otherwise might be long delayed or never built, and also by helping the community to provide those improvements without burden to the taxpayers. As a side benefit, it also provides opportunities for business which otherwise might never develop. So, from the standpoint of the bond dealer as well as from the standpoint of the community, the revenue bond financing of airport improvements affords an opportunity that deserves earnest attention.

To grasp this opportunity, however, places a challenging responsibility on the analyst. The reason is that the ultimate success of revenue bond projects at airports depends in large measure on an understanding of the fundamental problems involved in a new field which has many false prophets and only a fragmentary experience record. It would be presumptuous to discuss the technical aspects of the analyst's approach to problems involved in revenue bond projects at airports. It may be helpful, however, to suggest the fundamental points on which he should be informed in order to utilize technical skills effectively.

I. THE NATURE AND FUNCTIONS OF AN AIRPORT

An airport should not be considered merely as a transportation terminal designed to accommodate aircraft and to process their passengers and cargo. With such a concept there would be little point in discussing airport revenue bonds. The available revenues would fall far short of meeting the costs of providing, operating, and maintaining the necessary facilities—and there would be no margin to attract and protect revenue bond purchasers.

Fortunately, the airport has many other functions which, with proper design and under proper development, can be far more productive of revenues than the strictly aeronautical activities. For example:

The airport is as important a terminal for ground transportation as it is for air transportation, since all the people and goods that move by air must also move to and from an airport by some mode of ground transportation. This means that attention must be paid to adequate access highways, to adequate loading platforms for passengers, to adequate loading docks for cargo, to space for taxicab holding lines, to storage space for for-hire cars, and to automobile parking areas. That this ground transportation problem is no small task is indicated by the fact that last year at La Guardia Airport approximately 400,000 taxicabs left the airport with passengers; more than 1,200,000 passengers rode in airport limousines; and over \$300,000 was received from public automobile parking.

The airport is also, of course, a service station for aircraft. This involves facilities for the repair and servicing of aircraft, for the overhaul of aircraft components and accessories, and for the inside and outside storage of aircraft. Cleveland, for example, has just completed arrangements for the construction of a \$3,500,000 hangar at Cleveland Hopkins Airport which will be 1,375 feet long and will have five acres of concrete ramp in front of it.

The airport is also a service center for air passengers and visitors. The air passenger, the friends who meet him or see him off, and the casual visitors whom the aeronautical activity attracts to the airport, all have a wide variety of consumption requirements which need to be met. These

requirements range from shoe shines to deluxe meals, but all are part of the airport complex which must be understood if the needs of its customers are to be met. This again is no small business as evidenced by the fact that the volume of restaurant and bar business at Stapleton Airfield in Denver, Colo., is now averaging more than \$1,250,000 per year.

The airport is also a recreational and entertainment center for the community. The restaurants, shops, and services necessarily provided at an airport as a service to air passengers and their friends, combined with the drawing power of the aeronautical activity at the airport, inevitably make our modern airports a center of attraction for the entire community. This is well evidenced by the fact that an average more than 1 million people per year have visited the observation gallery at La Guardia Airport during the past six years.

The airport is also a center for governmental activities concerned with aviation. Most medium- and large-size airports have control towers operated by the Civil Aeronautics Administration, and a federally operated weather station. In New York these two agencies have made their regional headquarters at Idlewild Airport, where they occupy a \$4-million building especially constructed for their use. Many state aviation commissions also make their headquarters at airports.

The airport is important as an industrial site. More and more industries are finding that the increasing demand of air transportation for both people and goods makes the airport or land adjacent to the airport highly desirable for industrial use. At Friendship International Airport in Baltimore, for example, Westinghouse is just completing a \$9-million plant which is expected to employ 3,500 workers.

This complex of activities makes the airport also a major employment center in the community—actually an industry in its own right. At Love Field in Dallas, for example, a recent check revealed that 2,850 people were employed at the airport, and an additional 800 people with flying jobs were based at the airport. The total annual payroll for these two groups together, representing community income flowing from airport employment, amounted to \$14,500,000.

Finally, the many activities that make up the complex economic mechanism of a modern airport all depend on and support each other. The automobile parking lots get business from air line passengers, from visitors, and from employees. The use of the landing area depends as much on the availability of hangar and base facilities for various classes of aircraft and on the availability of good terminal facilities as it does on the availability of good runways and taxiways. The presence of industrial development at the airport means much to terminal area revenues from employee patronage of terminal concessions.

This means that the design of facilities at airports must recognize and provide for the requirements of all types of airport activity in order to have a sound basis for financing with revenue bonds.

II. WHAT IS MEANT BY AN AIRPORT REVENUE BOND

Municipalities in the United States are estimated to have anywhere from \$2 billion to \$6 billion invested in airport

facilities. The portion of this total that resulted from the issuance of revenue bonds is infinitesimal.

The Port of New York Authority had issued through December 31, 1951, airport revenue bonds in the total face amount of \$72,400,000—but these bonds enjoyed the support of a reserve filled up from the revenues from bridges, tunnels, and other Port Authority facilities and were not marketed solely on the security of the revenues to be derived from the facilities to be established.

The Dade County Port Authority has issued airport revenue bonds to improve and extend the Miami International Airport, but these bonds were secured by a pledge of the revenues of the entire airport, rather than merely by the revenues from the facilities constructed with the proceeds of the issue.

The only major airport revenue bond issue secured solely by the revenues from the facilities to be constructed with the proceeds of the bond issue was marketed last year by the city and county of Denver to secure funds for the terminal development program at Stapleton Airfield. This issue amounted to \$1,750,000 and was sold at an average effective interest cost of 3.3% to a syndicate headed by Harriman Ripley & Company and B. J. Van Ingen & Company of New York.

A few small so-called revenue bond issues have been marketed, but these have required the pledge, not only of the revenues from facilities other than those to be constructed out of the proceeds of the bond issue or even of the revenues of the entire airport, but in some cases also the mortgaging of the entire airport as additional security. Though this has made it possible to raise capital without burden to the taxpayer, the pledging of airport revenues as a whole to support just one facility or the giving of a mortgage on the airport creates a threat to flexibility in the future airport program, and even to the continued existence of the airport as an airport, a threat that most municipalities will wish to avoid.

It is desirable, therefore, to approach an airport revenue bond as an instrument usually to be secured only by the revenues of the facilities to be created with its proceeds. Sometimes, of course, it may be necessary to pledge additional revenues up to the revenues of the entire airport, and even to give a mortgage on the airport in order to accomplish essential airport financing. Recognize, however, that the revenue unit which is the basis of the revenue bond financing is completely flexible—it can be the airport as a whole, but it can also be an individual facility, a group of facilities, or even a portion of one facility, so long as the revenues and related expenses can be properly segregated and accounted for.

III. ABILITY TO ISSUE AIRPORT REVENUE BONDS IS PRIMARILY A MATTER OF THE EARNING POWER OF THE FACILITIES WHOSE REVENUES ARE TO BE PLEDGED, RATHER THAN A MATTER OF FINANCING TECHNIQUE

Airport officials frequently have only the most rudimentary appreciation of the difference between a revenue bond and a general obligation bond. Many of them seem to have the feeling that, when they reach their debt limit and the municipality can no longer issue general obligation

bonds for airport purposes, it is simply a matter of financial sleight of hand in order forthwith to issue revenue bonds for needed airport improvements.

What they forget is that the revenue bond depends for its market on the assurance that there will be sufficient net revenues from the facilities whose revenues are pledged to pay interest and amortization on the bonds as those payments become due. If such assurance is not reasonably evident from the data available on the facilities, they will not be able to issue revenue bonds—they will have no market.

In this respect, the airport is no different from a private corporation offering its unsecured bonds in the market. Such bonds can be sold if there is reasonable assurance that the corporation has a market for its product; that it has a plant neither too large nor too costly for its operations, a plant that will be economical to maintain and economical in production; and that it has a management and staff that will operate its plant and produce its product efficiently and economically.

So too with the airport. If it has a good market, a good plant, and good management, it can reasonably expect the net revenues which will permit it to issue revenue bonds. The real problem, therefore, is to make sure that the airport has the kind of a plant which will give it a sound basis for revenue bond financing.

IV. IT DEPENDS ON A SHOWING THAT THERE WILL BE A CONTINUING DEMAND FOR THE FACILITY TO BE FINANCED

Bond investment is typically long-term investment. The revenue bond buyer has to look to net revenues to meet his claims for interest and bond repayment over long periods of time. He is not nearly so interested in whether the pledged facility will earn its debt service three times this year as he is in receiving reasonable assurance that it will earn it perhaps one and a half times on average over the entire life of his bond.

At an airport such assurance depends on the continued demand for the facilities at the airport, that is, the continued traffic potential at the airport. An assured traffic potential is essential because the bulk of the activity at an airport depends on the continued flow of air traffic through the airport. This is the life blood which keeps the cash registers ringing and the fees and rentals coming into the airport treasury.

Naturally, there is nothing so comforting to the revenue bond buyer as to have the revenue bond facilities rented to tenants with prime credit ratings for the entire period of the bonds at rentals that will assure the payment of interest and bond amortization when due. This does not happen very often in the airport business. Failing that, a sound evaluation of traffic expectancy must be available, both as an assurance to the revenue bond buyer and also as a basis for the proper design and engineering of airport facilities.

V. DEPENDS ON DESIGNING AND ENGINEERING FOR THE LOWEST POSSIBLE CAPITAL COST IN RELATION TO CAPACITY AND DEMAND

There should, of course, be no compromise with quality or with the efficient functional layout of revenue bond facilities. On the other hand, airport management should

know or find out what it needs, build no more than it needs, and avoid expensive features and ornamentation which are not required for efficient functioning. It is well to remember that a 10% decrease in construction costs will increase the coverage on twenty-five-year 4% revenue bonds from 1.5 to 1.66. This certainly gives a more attractive bond in the market and may result in a lower effective interest cost.

To find out what to build, refer first to the traffic forecast. Also needed will be an activity forecast showing the types of activity that may reasonably be anticipated at the airport. Together these give a basis for a forecast of plane movements, of the type of traffic expected at the airport, and of the airport population that may be anticipated.

These are the raw materials on which can then be based a space and design requirements study which will show the physical facilities required reasonably to accommodate the aeronautical and other activities in prospect at the particular airport. This then is the proper design basis, whether the problem is to locate and build a new airport or only a new facility on an existing airport. The important thing in all airport construction, but particularly in connection with revenue bond facilities, is to design and build a little beyond near-term demand, but to avoid the creation of civic monuments which have plagued airport development programs in cities throughout the country.

Because of the nature of an airport, the landing area facilities will require about the same construction, whether the demand is going to require 100% of their capacity or only 35%. It is necessary to have a runway and related taxiways, regardless of how many plane movements may be anticipated. Remember, however, that little more capacity is available from three runways than from two, or even from one if the airport is primarily an air line airport used by large aircraft which can land considerably off the prevailing wind. In landing area design, therefore, very substantial savings in capital cost may be made with little or no effect on capacity or revenue potential by reducing the number of runways to two, or even to one, instead of the conventional three.

In terminal building work, economy in construction rests on a sound space and design requirements study and a recognition of the functions of the various parts of a terminal building. Basically the terminal is a working headquarters for the servicing of aircraft; the processing of air passengers and air cargo; and the vending of food, merchandise, and services to the public. The areas that merit costly treatment should be a relatively small percentage of the total, and the income-producing areas must be a relatively high percentage of the total if the facility is to lend itself to revenue bond financing.

VI. ON DESIGNING THE AIRPORT AND ITS FACILITIES FOR ECONOMICAL EXPANSION

The revenue bond buyer properly requires assurance that there will be a continued demand for the services of the airport facilities that he finances. He has an equal right to assurance that the facility he finances will not lose its market because it cannot be expanded economically to keep pace with growing demand.

This is especially true in the airport field because it is an

industry that has barely tapped its full potential market. Naturally, it has and will have its ups and downs, which is why initial overbuilding is dangerous. The long-term trend is definitely upward, however, and airports and airport facilities must be designed for economical expansion.

This means that an airport should not be located where expansion is limited by railroad tracks, major highways, mountains, waterways, or other obstacles which cannot be overcome if greater area is needed.

RUNWAY LAYOUT

With respect to the runway layout, this means planning ahead for the possibility of longer runways and locating them so that such extensions will be possible without unreasonable cost for land acquisition or obstruction removal. It also means planning the bearing capacity of runways so that it can be increased to accommodate larger and heavier aircraft. Equally important in an airport which may reasonably require the capacity of parallel runways is to locate the terminal area so that it will lie between the ultimate parallel runways, rather than having both runways lie on one side of the terminal. With parallel runways planned on either side of the terminal building, it is possible to get more than twice the capacity of a single runway in the parallel stage. With both parallel runways on one side of the terminal building, parallel runways will give less than twice the capacity of a single runway because of the necessity of moving aircraft to and from the far runway across the near runway, with consequent decrease in the capacity of the near runway.

With respect to the terminal building, this means that the land reserved for terminal purposes should be sufficient to permit economical extension of the building and of the aircraft loading positions which serve it, as well as economical extension of ancillary facilities such as automobile parking areas, taxicab lines, and circulation area for commercial vehicles. This is equally true of hangar areas in which ground should be reserved for future expansion to meet the growing needs of the aeronautical users of the airport.

Within the terminal building itself, there is the same type of problem. As air line business grows, the air lines need more lineal footage of ticket counter, more area for operational offices and passenger service, for baggage and freight handling, and for everything they do. It is unwise initially to build far in advance of demand, but the facility should be planned so that the inevitable expansion of specific functions within the building can be made with a minimum of added expense. This is equally true of concession areas and public space in the terminal building, since they are all a function of the terminal population which grows with air traffic.

What this adds up to is that sound design and engineering for airport facilities today typically require more professional work in relation to initial costs than most other construction projects, because of the necessity of planning for considerably more than is actually built initially in order to do a sound job. This is a point that it is sometimes difficult for airport operators to appreciate, but it is essential that it be appreciated and be authorized in connection with revenue bond facilities.

VII. ON LOCATING AND DESIGNING THE AIRPORT AND ITS FACILITIES SO AS TO PRODUCE THE MAXIMUM GROSS REVENUE

The initial factor that contributes to the realization of *net* revenues adequate to support revenue bonds is a maximum development of *gross* revenues. And the production of maximum gross revenue can only be realized when that objective is kept constantly in mind, first in the location of the airport itself, and then in the location and design of its facilities.

A substantial portion of the revenue of modern airports comes from the people who visit the airport from the adjacent communities. Between locations otherwise equally satisfactory that which has the greatest consumer market readily available will produce the greatest revenue.

Also important are convenient ground access facilities, with locations to be preferred that are on or adjacent to main highways, have direct service by public transportation facilities, and are within a reasonable cab fare of the city center.

The revenue potential of an airport also depends on space—space to permit necessary expansion of the landing area so as to accommodate larger aircraft, space to accommodate all the various types of activity that can reasonably be expected at the airport, and space for expansion of individual facilities such as the terminal building and the hangars. Land at airports is seldom expensive in relation to the revenue that can be realized from its full development. Only by encouraging the provision of an adequate area initially can one be sure of having room to accommodate the balanced development which is essential to the production of maximum revenues.

The terminal area, of course, is the major revenue source at most modern airports. As a result, it stands to lose or gain most by the attention that is paid to revenue production at the design stage. Unless the terminal is designed to exploit to the full the revenue potentially available, the

chances of a feasible revenue bond program are practically nil.

This entire article could be devoted to the basic problem of designing air terminals for revenue production—and it would only scratch the surface. About all that can be done here is to mention a few examples to spark individual thinking.

At active terminals, an observation gallery is an important source of revenue—if there is no convenient free location from which to see the same activities. By all means provide an observation gallery—but don't permit the existence of free competition. And remember, too, that the observation gallery will produce more revenue if it has convenient electric outlets to which to connect vending machines, and plumbing to permit the installation of refreshment stands.

Concessions are an important source of airport revenue—if they are exposed to all the people who use the terminal. Customers will not engage in a treasure hunt in order to find a place to spend their money. Provide all the concession space reasonably required for the anticipated terminal population, but centralize the flow of people so that they will be exposed to all the concessions in a concentrated area.

Automobile parking is an important source of revenue at larger airports—if it is located adjacent to the terminal building and protected from equally desirable free competition. These points must be kept in mind in the layout of the areas adjacent to the terminal building.

So, too, with taxicabs and drive-yourself cars. They will produce revenue for the airport if they are given a convenient storage area and service points so that they can develop business.

Remember, also, that submetering of electricity can be an important source of revenue at large airports—if it is possible under the public utility's rate schedules and if the electric distribution system is designed for it.

All this means is that revenue production at an airport

ALLEGHENY LUDLUM STEEL CORPORATION

Pittsburgh, Penna.

At a meeting of the Board of Directors of the Allegheny Ludlum Steel Corporation held today, August 21, 1952, a dividend of fifty cents (50c) per share was declared on the Common Stock of the Corporation, payable September 30, 1952, to Common stockholders of record at the close of business on September 2, 1952.

The Board also declared a dividend of one dollar nine and three-eighths cents (\$1.09375) per share on the \$4.375 Cumulative Preferred Stock of the Corporation, payable September 15, 1952, to Preferred stockholders of record at the close of business on September 2, 1952.

S. A. McCaskey, Jr.
Secretary



DIVIDEND NOTICES

OLIVER

Common Stock Dividend:

The Board of Directors has declared a quarterly dividend of 30 cents per share on the common stock, payable October 2, 1952, to shareholders of record September 5, 1952.

Preferred Stock Dividend:

The regular quarterly dividend of \$1.12½ per share on the 4½% Cumulative Convertible Preferred Stock has been declared payable October 31, 1952, to shareholders of record October 15, 1952.

ALVA W. PHELPS A. KING McCORD
Chairman of the President
Board

THE OLIVER CORPORATION

Chicago, Illinois



54th Consecutive Dividend

The Board of Directors of Rome Cable Corporation has declared consecutive Dividend No. 54 for 30 cents per share on the Common Capital Stock of the Corporation, payable October 1, 1952, to holders of record at the close of business on September 11, 1952.

The Directors also declared Dividend No. 25 for 30 cents per share on the 4% Cumulative Convertible Preferred Stock of the Corporation, payable October 1, 1952, to holders of record at the close of business on September 11, 1952.

JOHN H. DYETT, Secretary
Rome, N. Y., September 4, 1952

is not a specialized activity which starts after the airport is built. All that can be done then is to try to get the most out of the facility, no matter how poor it may be. To achieve the full potential at an airport, however, the job has to be started at the design stage.

VIII. ON DESIGNING THE AIRPORT FOR ECONOMICAL OPERATION

Another factor that contributes to the realization of *net* revenues adequate to support revenue bonds is a minimum operating cost. This, too, depends in large measure on design, engineering, and construction materials. Mention will be made of just a few of the many factors that deserve attention in this connection.

Snow removal with heavy equipment is relatively economical compared to snow removal with small equipment or by hand. Reduce operating expense at the design stage by eliminating or keeping to a minimum the sharp angles and constricted areas on the loading ramp where snow removal would otherwise require small equipment or hand work.

MANNED AROUND THE CLOCK

Every point on the airport that must be manned around the clock seven days a week will cost the airport the wages of 4½ to 5 men. This includes guard stations, public address control, pneumatic tube control, and telephone switchboards. Locating two or more of these activities at common or adjacent points will mean significant savings in the annual operating budget.

Public toilets are expensive to keep clean and are costly from the standpoint of the wages of attendants. The expense can be substantially reduced, and in large terminals eliminated by transferring responsibility to a concessionaire, *if* the necessary facilities are concentrated in a few large installations rather than fitted in helter skelter throughout the public areas of a terminal.

Cleaning services make up a substantial portion of terminal costs and vary widely depending on the materials used for walls and floors. Some materials are much better suited to the use of mechanical cleaning equipment than others. A review of proposed construction materials with the airport custodial service or with a sanitation maintenance contractor can result in important economies in cleaning expenses.

Finally there is the problem of metering utilities provided by the airport to its tenants. The electricity supplied for illumination to miscellaneous tenants is not a matter of great concern. What is important, however, is to meter steam and hot water supplied to the restaurant concessionaire, and electricity for power as well as illumination supplied to the Civil Aeronautics Administration, the Weather Bureau, the air lines, and the restaurant concessionaire. These represent substantial costs to the airport which, if estimated, will usually be compromised on a basis favorable to the tenant and unfavorable to the airport. They should be metered to protect the airport from loss.

All of these examples, though perhaps not too significant individually, indicate the importance of beginning at the design stage to build economical operation into the proposed facility.

IX. DESIGNING THE AIRPORT AND ITS FACILITIES FOR ECONOMICAL USE BY TENANTS

Still another factor that contributes to the realization of net revenues adequate to support revenue bonds is the provision of a facility that it is economical for tenants to use. The more economical the tenant's operation, the more willing and more able he is to pay a proper rent or fee for the use of the facility.

The easiest way to find out what features and layout will be most economical for the tenants is to consult with them, and this includes concessionaires, ground transportation firms, Government agencies, oil companies, air lines, and any others who are major users of the airport. It may not be possible to give them everything they want—but it will certainly be possible to give them most of what they want, and are willing to pay for.

This is not a minor matter by any means. Significant savings can be realized in tenant's operating costs by consideration of their problems at the design stage. For example, the distance, time, and cost of taxiing can be kept to a minimum if the terminal and hangar areas are so located as to be a minimum distance from the runway ends. Taxiing distance can also be reduced and time and expense saved by constructing frequent turnoffs from the runways to the taxiways. Of even greater benefit to the air line tenant is the provision of adequate runway length and strength to permit the use of the field with their usual aircraft without restriction on payload.

SPECIAL OPERATING PROBLEMS

Within the terminal area, both the air lines and the concessionaires have special operating problems which need recognition at the design stage if operating costs are to be kept to a minimum. The restaurant concessionaire, for example, will save if food preparation is concentrated in one kitchen and if that kitchen is designed to suit his particular type of operation. All concessionaires will save if convenient and accessible storage space is provided. The individual air lines will save if their operations space is convenient to the loading gates that each uses and if their total space is concentrated into groupings that will avoid needless duplication of personnel.

In the hangar areas there are equally significant opportunities to achieve operating savings through proper design. A lighting installation with short-lived lamps can easily cost more in maintenance expenses plus capital costs than a more expensive system requiring attention less frequently. The selection of a heating system should not be made on the basis only of its capital cost in relation to the area to be heated, but rather should reflect other factors such as fuel savings possible with added insulation and possible economies from radiant heating in very high hangars.

This emphasis on bringing the tenant's and user's point of view into the design and engineering of airport facilities reflects my personal conviction that our experience record is too limited to expect any substantial development of the airport revenue bond market without the co-operation of airport tenants and users and that we increase their willingness to co-operate if we make the facilities economical for them to use.

X. REVENUE BOND FINANCING FOR AIRPORT IMPROVEMENTS MAY REQUIRE THAT THE FEASIBILITY REPORT COVER A VERY WIDE SCOPE

This point is the last of ten basic concepts important to an understanding of airport revenue bond financing, because the reaction of analysts, engineers, and municipal officials to the "bankers' report" or "feasibility report" varies so widely. Perhaps that is due in some measure to the fact that such reports vary pretty widely also, both in scope and also in the thoroughness of the detailed investigation.

In the development of airport revenue bonds, the security is so new and the scope of airport activities so complex that such an evaluation must not only assure the investor of the soundness of the design, engineering, and cost estimates, but also must relate that work to other factors which are outside the responsibility of the architect and engineer. These include:

1. The traffic, activity, and population forecasts on which that work is based.
2. The reliability of the techniques used to convert those forecasts into space and facility requirements.
3. The validity of the proposed budget for operation and maintenance expenses.
4. The reasonableness of the proposed structure and level of rates and resulting revenue forecasts.
5. The reasonableness of the effective interest anticipated for the proposed bond issue.
6. The efficiency of existing management and the future prospects for efficient and economical administration of the airport.

In addition, the airport feasibility report has to consider a host of contingent threats to the security of the proposed bond issue, including factors such as:

1. The threat of recapture by the Federal Government under existing agreements.
2. The obligation to provide free space and runway use to the Federal Government under existing agreements.
3. The effect of existing long-term leases with air lines and other tenants.
4. The danger of an assessment of real property taxes against airport property.
5. The possible reduction in airport capacity as the result of air space congestion.
6. The extent to which the aerial approaches to the airport may be endangered by uncontrolled construction which would impinge on flight paths.
7. The danger of disastrous floods which might destroy the entire earning power of the facility, and many others.

Only when the work of the architect and engineer has been evaluated and related to all these other factors will the bond buyer have an integrated picture of the future prospects of the facility he is being asked to finance solely on the security of those prospects. With this approach, it is reasonable to expect that a great deal of needed airport construction can be financed with revenue bonds. The industry is basically sound, and it has excellent future prospects. With good planning and careful management it can develop the revenues that will provide a sound basis for revenue financing.

* * *

In March 1813 . . . Governor Simon Snyder of Pennsylvania vetoed a bill to create 25 banks to be dispersed over the state with a capital of \$9,525,000, because "the readiness to give credit would invite visionary speculations; divert men from useful pursuits; damp the ardor of industrious enterprise; and consequently demoralize the country."

Declines in prices during elections years have not been evident in most instances, with the end of October as a top. Unfavorable business during election years, such as 1852, when January found poor prices; a recovery was led in April by demands for money. "Fancies" led the recovery. In 1900 unfavorable crop reports and poor trade were not of as much importance as the defeat of Bryan. After Bryan's defeat the stock prices rose. The 1904 upswing was started by Supreme Court decisions. The 1920 downturn came from oversized inventories, and price cuttings coupled with the Japanese silk market collapse.

how thick?

A 52-inch ingot of cast steel. Cut to size — with the fire-lance of the oxyacetylene flame knifing through the thickest steel maintaining peak production schedules.

how thin?

The gossamer-sheer of *tres chic* Orlon blouses — from acetylene, a basic ingredient of the newest materials for clothing — insulations — plastics

at the frontiers of progress you'll find



From a lance of fire — to a lady's clothes. Carbide acetylene is the basic building block of a whole range of today's — and tomorrow's — newest products.

Combined with oxygen, acetylene forms a key to our industrial progress. As metal welding, cutting, and conditioning agents carbide and carbide acetylene add their share to an economy based on high industrial production.

And these are but two of the many products of the Air Reduction Corporate family — products contributing to almost every phase of American life — and progress.

In fact, wherever progress is racing ahead to new frontiers, you will find an *Air Reduction Product*.



AIR REDUCTION COMPANY, INCORPORATED

60 EAST 42nd STREET • NEW YORK 17, N. Y.

Divisions of Air Reduction Company, Incorporated,
AIR REDUCTION SALES COMPANY, AIR
REDUCTION PACIFIC COMPANY, AIR
REDUCTION MAGNOLIA COMPANY... *Industrial
Gases, Welding and Cutting Equipment*
• AIRCO EQUIPMENT MANUFACTURING
DIVISION • NATIONAL CARBIDE COM-
PANY... *Calcium Carbide* • OHIO CHEMI-
CAL & SURGICAL EQUIPMENT CO.,
OHIO CHEMICAL PACIFIC COMPANY...
*Medical Gases and Apparatus — Hospital
Equipment* • PURE CARBONIC COMPANY
... *Carbonic Gas and "Dry-Ice"* • AIRCO
COMPANY INTERNATIONAL... *Export* • AIR
REDUCTION CHEMICAL COMPANY...
Tertiary Acetylenic Alcohols and Glycols

The Management Factor in Security Analysis

A. SHERIDAN ATKINSON

AN APPRAISAL OF CORPORATE MANAGEMENT is generally recognized to be an important aspect of any sound study used as the basis for extending credit or committing investment funds.

Yet, as one examines the flood of reports that emanate daily from financial sources all over the United States, it would appear that in actual practice little attention is paid by security analysts to the management factor. An occasional study will contain brief personal histories of key officers, but beyond this a scientific evaluation of management is a rather rare exception.

REDUCE APPRAISAL TO MECHANICAL TECHNIQUE

Analysts have seemingly found it much more popular to concentrate their efforts on an attempt to reduce the appraisal of investments to a mechanical or statistical technique which, they hope, will take the guesswork out of investment recommendations. Even those ultraconservative investment analysts who look with disdain on formula plans, technical market theories, elaborate charts replete with trend lines, buying points, and the like are prone to rely almost exclusively on the detailed financial data obtained from annual reports and the recognized investment services.

EARNING POWER BECOMES SIGNIFICANT

In short-term financing, where current balance sheet position is of primary concern, this no doubt suffices. But, as loan repayment terms lengthen or attention shifts from senior securities to equities, earning power becomes increasingly significant. Certainly earnings potential is intimately correlated with management potential. Why then do so many analysts minimize or ignore the management factor when admittedly it is so important?

No doubt a lack of personal contact with corporate executives and a scarcity of readily available information on management are the primary reasons. But, if analysts felt a genuine concern over the need for such data, they could take steps to obtain them. More importantly, their neglect of the management factor would seem to be due, in a large measure, to a rather common assumption—recognized or not—that conditions in the future will be reasonably like those that prevailed in the past, and, therefore, historical performance can be projected into the future with a fair degree of confidence.

Of course, if this could be done, an extensive consideration of management would be unnecessary. But this is a dangerous oversimplification, for it:

1. Misinterprets the dynamic nature of our economy.
2. Fails to recognize the strategic role played by management in adjusting corporate operations to the changes that inevitably develop.
3. Ignores the fact that management itself is a dynamic factor.

THE DYNAMICS OF THE ANALYST'S PROBLEM

Physicists tell us that nothing in the material world is static—that an isolated system can never again be in the same state in which it was at a given moment in time.

In the economic sphere, movement likewise is continuously evident. The components of gross national product, the cyclical patterns of various industries, the competitive position and performance of individual companies, the ownership of industry, the make-up of management, and certainly the price levels of securities—all change constantly.

The goal of both the professional scientist and the financial analyst is the same—to understand and to foresee. The technique applied to achieve this objective consists of breaking up each phenomenon into simple elements, and these in turn into still simpler ones, in the hope of discovering phenomena so evident and familiar that further analysis and explanation are unnecessary.

Unfortunately simplification is always arbitrary and often tends to separate the analyst from reality. Such is the case when the security analyst, for the sake of simplicity, ignores the dynamic character of our economy, corporations, and their managements.

A DIFFICULT RESPONSIBILITY

Admittedly the investment analyst has a most difficult responsibility. He must analyze a multiplicity of shifting components, including the make-up of management itself, and develop recommendations regarding the merits of a specific situation. It would be convenient if he could ignore both time and change. But the very moment he is analyzing the latest financial statement he is, in fact, dealing with the past. And the present has probably already brought significant changes.

IMPORTANCE OF MANAGEMENT APPRAISAL

A consideration of past financial performance is extremely important. To insure proper perspective, a thorough study should review a corporation's financial record over a period of several years and especially during periods of crisis. But, in the final analysis, whether or not in the future a company maintains its competitive position, whether or not financial resources are dissipated or strengthened, and, indirectly, what happens to the market price of its securities depend to a large degree on the intelligence, vision, and flexibility of its management in adjusting operations to the varying circumstances that are bound to come. Unless an investment study is supplemented by a thorough consideration of the potential of management to meet these changes, the conclusions and recommendations of the analyst may prove quite superficial. For management is the key to future earnings and financial soundness.

Few if any analysts would argue against this rather obvious fact. On the contrary, most would no doubt feel that they are quite cognizant of the significance of evaluating the capabilities of management.

The unfortunate thing is that it is all too easy for the analyst to think he is giving adequate weight to this factor when in reality he does not have the proper criteria for making an intelligent appraisal. Impressions are formed unconsciously from slanted corporate public relations bulletins, an enthusiastic speech delivered by a top officer who, perhaps, was a former sales vice-president, a recent announcement of a new product or stock split, or some other equally interesting but irrelevant development. Oftentimes, while under the impression that he is appraising management potential, the analyst is actually measuring this factor only in terms of past financial performance.

DIFFICULT TO REACH CONCLUSIONS

If volume or profits have been high, it is not difficult to conclude superficially that a company has a good management. But perhaps management is actually on the downgrade, and performance has been due to favorable long-term contracts which are running out, or to some other favorable influence. On the other hand, a drop in profits is not necessarily indicative of poor management. Perhaps profits would have dropped more precipitously had it not been for the resourcefulness of management.

This suggests that, granting the importance of appraising management, one must concede that the yardsticks for measuring this factor must be accurate and pertinent or the net effect could conceivably be worse than if consideration had never been given.

MANAGEMENT APPRAISAL TECHNIQUE

Much as he might like to explore thoroughly all aspects of corporate management, the typical investment analyst has neither the background in scientific management techniques nor the time and opportunity to conduct extensive interviews with corporate management. His contacts will probably be limited to one or a few conferences with perhaps the president or financial officer, plus the exchange of correspondence.

This necessitates the development of practical appraisal techniques for the security analyst which will permit a general evaluation of management without requiring the specialized skills of the professional management consultant. Of course, there are many times—for example, in connection with a major underwriting of common stock or a special study for a dominant stockholder group—when the retention of such counsel will be a valuable supplement to the work of the investment analyst. In most investigations, however, there is no reason why a trained financial man cannot secure sufficient information on management to reach a general appraisal that will suffice for his study.

In lieu of extensive personal interviews with major executives, the analyst can fairly safely presume that, whatever effectiveness a management team has had in the *very recent past*, it will be able to continue with about equal effectiveness in the *very near future*. Hence, the traditional

approach with an analysis of the most recent financial and operating data will usually suffice to provide an appraisal of management potential *over the short term*.

Of greater concern to the security analyst is the potential ability of management to operate effectively three years, five years, or ten years hence. If management is currently doing its job well, the men who will comprise the management team at these future dates will be in the organization in an executive development program right now. Plans will be in the process of formulation that will determine the operating program they will have to administer. And, finally, adequate management controls will be in operation which will point up problem areas as they develop, to enable management to maintain flexibility in the face of changing circumstances. The analyst should find out if a given management is in fact so preparing for the future.

Planning by management does not in itself insure eminent *performance*. But the management that is fully cognizant of the need for planning and sets out to do as intelligent a job as it knows how in formulating a program for the future is well on its way toward minimizing or eliminating many problems that otherwise might present complications.

This suggests that, if the security analyst is able to determine the extent to which the present management of a corporation

1. Understands its basic objectives,
2. Recognizes the need for long-range planning,
3. Establishes rigid controls to guarantee flexibility,

he will then have a broad basis for appraising that management. His evaluation will of necessity be quite general—but it should suffice for most investment studies. It will at least tell him whether management recognizes the possibility of changes ahead and is planning accordingly, or whether management is coasting on its laurels of former days.

DEVELOPING FACTS ON MANAGEMENT COMPETENCY

The security analyst, either by direct interviews with corporate officers or by the exchange of correspondence, should therefore endeavor to supplement his financial analyses with answers to the following questions:

1. *Does management clearly understand the company's long-range objectives?* The security analyst must penetrate beneath the superficial reply to this question. Most executives will probably be able to define in glowing generalities the objectives of their concern. But whether objectives are actually well defined and operations consistently geared toward the attainment of objectives is another matter.

Often a simple question like "What are you trying to accomplish in the long run?" or "What specific advantages do you have over competitors that justify your continuing in this field?" will uncover management weaknesses.

For example, in reply to the latter question a corporate officer recently indicated that his company had a favored position because it produced a higher-quality product line. But a series of follow-up questions soon brought to light a glaring management deficiency. With quality its basic objective, management had failed to install an adequate

quality control program. In another situation, the question "Why are you producing product X—is it more profitable than your other items?" revealed that the company was producing it primarily because the original founder had as his personal objective the inclusion of this item in the product line. Present management had no real cost figures by products but felt quite sure that the product was being distributed currently at a loss. The analyst should obviously be interested in determining the motives that prompt management actions, for they often give a clue to the depth of management thinking and planning.

By defining basic objectives and relating recent activities to those objectives, the security analyst can begin to determine whether management is letting circumstances dictate its decisions or is proceeding in accordance with a long-range plan that makes good sense from a profit standpoint.

2. *To what degree is management currently planning company operations to insure attainment of basic objectives?* The wise management will endeavor to translate basic objectives into well-defined policies, procedures, and programs known throughout the organization. The extent to which this is done is a key to management competence.

The higher the level one reaches in a corporation, the more the emphasis that should be placed on planning. If the analyst finds that a board of directors spends most of its time dealing with day-to-day problems, there is a strong presumption that it has failed to recognize the importance of the planning function. The same applies to the activities of the president.

Most corporation executives will probably be certain in their own minds that they are doing a planning job. The security analyst must find out whether this is really so. Questions should be directed to management in such a way as to reveal whether it is

(a) Developing realistic sales forecasts based on scientific marketing research.

(b) Securing adequate cost information on all aspects of operations and applying to a break-even chart.

(c) Relating research, product mix, facilities, production, sales, organization, personnel, and financial planning to such forecasts and cost studies.

(d) Formulating an over-all program which will provide optimum profits for the long run.

(e) Recognizing the importance to long-range success of developing sound relations with employees, stockholders, industry, banks, suppliers, customers, government, and the public.

(f) Emphasizing the continuing need for planning all corporate activities to insure attainment of objectives.

Questions such as "What is the potential market for product A in five years?" "What productive facilities will be required to take care of the anticipated market?" "Why are you locating your new plant in this particular area?" "What will your unit labor, distribution, and miscellaneous costs be?" "What plans do you have for retiring your preferred stock?" will pinpoint the degree of real planning that is being done. Progressive managements will have thought through and have answers for such questions.

Managements that substitute "playing by ear" for intelligent planning will be forced to reply in generalities.

The analyst should particularly note whether management recognizes the practical limitations of even the most sophisticated planning. The wise management will appreciate that recent trends can change often with little or no warning. It will establish reserves in prosperous times to afford protection and to insure funds to take advantage of distressed conditions when they come.

The management that *plans* is the management that *thinks*, and the management that thinks in advance is the management most likely to succeed in adapting its future operations promptly and effectively to the inevitable changes that will come. The management that does not plan will be much like the uninformed security investor who gets optimistic as the bull market enters its final upswing and who gets bearish at the bottom of the recession.

3. *Is proper emphasis being given by management to the development of a sound organization structure?* A well-designed organization structure, adapted to the particular needs of a corporation and adjusted as modified plans dictate, is a "must" for long-range corporate success. Sometimes a simple request for an examination of an organization chart will reveal that management has not even given sufficient attention to the organization problem to warrant preparation of such a chart. If this is true, the analyst right here can conclude that management is certainly not very alert to the extreme significance of the problems of operating as a team.

On the other hand, the mere preparation of an organization chart certainly does not insure sound organization. The analyst should, therefore, be prepared to penetrate beneath the position boxes and lines of authority and responsibility set forth on such a chart. Questions, such as "How many people report directly to the president?" "Who is responsible for controlling inventories?" or "Why are you organized on a geographic rather than a product-group basis?" will provide the starting point for determining if the management has given serious thought to whether its organization structure is geared to its particular requirements.

A corporation in its earlier stages of development often can get along with the dominant leadership of one or a few individuals and give little attention to such matters as the delegation of authority and responsibility, or the defining of interdepartmental relationships. As it grows, however, it can be effective over the long run only if it recognizes that its success is directly connected with its ability to operate in a co-ordinated manner.

Organization charts, management guides, and the like are not in themselves the solution to organization problems. But their presence and use are indicative of a management emphasis that is typical of the more successful corporations. On the other hand, excessive tension on the management team, complicated channels of communication, overly busy executives, centralization of routine decisions at the top level, high turnover of key personnel, and the like are symptomatic of organization, and hence top-management, weaknesses.

The investment man cannot be expected to appraise the

soundness of management's organization plans, but he can at least find out if management recognizes the importance of top-level attention to the problem.

4. *What is management now doing to develop competent personnel to carry on in the future?* This is an extremely important question, for long-range financial success will depend on the caliber of men comprising management. Here again the analyst must develop questioning techniques which will expose superficial replies. He should ask specific questions such as: "Which of your key officers will retire in one year, three years, and five years, and which men in the organization are currently being trained to replace them?" If management cannot indicate the men who will probably make up its top-management team in one year, three years, or five years, this should be a warning signal.

If the board of directors is composed entirely of operating executives, the analyst should question why there is no recognition of the need for obtaining outside objective counsel. If the vast majority of its executives are old or very young, the analyst should question why there is not a balancing of age and experience. If there are no staff assistants to key executives who can take some of the load off busy managers and at the same time develop into capable replacements, the analyst should ask why.

The importance of people to corporate success was well recognized by Andrew Carnegie when he said: "Take away our factories, our trade, our avenues of transportation, our money, but leave me our organization, and in four years I will have re-established myself." He might well have added that, if during these four years his organization failed to bring in and develop new talent, at the end of the period it would find itself rather ineffective. Organizations as well as facilities and money have a way of dissipating themselves unless there is a continuing emphasis on personnel replacement and development.

The security analyst should check to see management's alertness to this need. An enlightened approach to labor relations, recruiting efforts to secure the best college graduates, executive development programs, wage and salary administration programs, profit-sharing arrangements, retirement plans, and the like are evidences of progressive management thinking with respect to personnel.

5. *Has management established effective controls to insure that its plans will be carried out?* Unless management has developed adequate controls over policies, procedures, organization, personnel, facilities, processes, output, quality, costs, expenditures, and all other important areas of company operations, its planning could conceivably be to no avail. The security analyst who finds that management has set up rigid controls can reasonably assume that management is really running its business, rather than the reverse.

By the simple process of asking an executive exactly what information comes to him at what time, the security analyst can find out if adequate controls are set up. Recently, when asked about the relative profitability of his division offices, the top financial officer of a corporation stated that he had no profit and loss information on a divisional basis. It would be entirely possible, therefore, for one or more of

his divisions to be slipping profitwise without his being aware of it. Even though he might be a capable executive, his decisions can be no better than the information upon which they are based.

Progressive managements recognize this fact and make constant use of such control "tools" as budgets, standard cost systems, break-even charts, internal audits, and executive control reports which provide each manager with exactly the information he needs at the time he needs it for carrying out his particular responsibility.

The analyst should certainly find out if a corporation has an adequate "warning system" for alerting management to the need for taking corrective action promptly when developments dictate. He should also find out who does the controlling—one top man, or executives throughout the organization on a delegated basis.

SUMMARY

In determining the merits of a particular investment, the security analyst is faced with a multiplicity of shifting factors which have a direct bearing on the long-range outlook for that investment. He should recognize that a novel product, adequate finances, modern plants, or a favorable Government contract do not in themselves guarantee profitable operations over the long run. Technological developments can change the demand for the product, financial resources can be dissipated, plants can become obsolete, and Government contracts can terminate abruptly.

Although a thorough consideration of each of these as well as other factors including current market levels is a "must" for a thorough financial study, the security analyst should recognize the increasingly important role played by management in determining the success or failure of corporate operations.

BUSINESS BECOMING MORE COMPETITIVE

On every hand, one hears the comment these days that business is becoming more competitive—that profit margins are narrowing. The management that heretofore has been able to concentrate primarily on volume is now finding that rising operating costs and competition are demanding a "new look" at the whole technique for directing operations.

ANALYST'S METHOD OF APPRAISAL

As an integral part of his investment study, the analyst should therefore endeavor to appraise management potential in terms of its (1) understanding of objectives, (2) planning of long-range operations, and (3) unflinching control of corporate activities.

It should be fully recognized that such an appraisal even in broad terms is difficult. But there is no reason why the same technical competence that has characterized the efforts of professional security analysts in appraising statistical data cannot be utilized to a greater extent in the important task of appraising management.

A company's profits, dividends, and security prices may fluctuate quite independently of the effort exerted by management over the short term. But, in the long run, the management factor is of extreme significance and should be so recognized by professional security analysts.

Memo on the Rural Market down South:

MEMO

1. Southern farmers' income now about \$8 billion annually -- up from \$2 billion in 1940.
2. Increase in effective buying power tremendous -- number of tractors on southern farms practically doubled since World War II, with average gain of 68,000 tractors each year.
3. Added rural income and ample electric power have resulted in a heavy demand for home appliances, farm machinery and labor saving devices of all types.
4. Per capita sales throughout the South have gained much faster than rest of the nation. Advise immediate consideration be given to plans for location of plant and branch office in this rapidly growing area. All indications point to continued progress, higher farm income, bigger sales potential.

Write the agricultural development departments of any of the four operating companies for further information.

ALABAMA POWER COMPANY, Birmingham, Alabama
GEORGIA POWER COMPANY, Atlanta, Georgia
GULF POWER COMPANY, Pensacola, Florida
MISSISSIPPI POWER COMPANY, Gulfport, Mississippi
THE SOUTHERN COMPANY, Birmingham • Atlanta

This is "Southern City," U.S.A.
It's our way of expressing as a unit the vast Southeast area of 100,000 square miles and 6,300,000 people served by the four associated electric power companies of The Southern Company system.

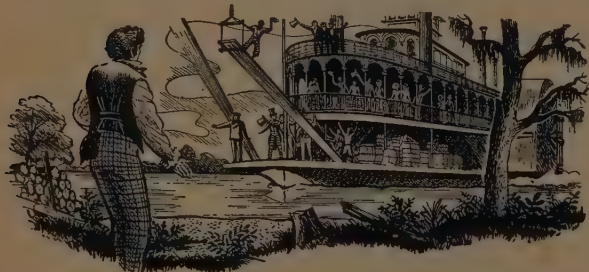
The South and the Southern Company Group are both growing . . . Together!



Old Rough and Ready

SOLDIER IN THE WHITE HOUSE

Schooled in war, not politics, Zachary Taylor had never even voted in a major election when he entered the presidential campaign of 1848. He disliked political parties and at first insisted on being a non-partisan candidate. The official notice of his nomination was sent to the dead-letter office with a quantity of mail on which the parsimonious Taylor refused to pay



postage. (Prepaid postage was not yet in regular practice.) Unofficial word reached him via Mississippi steamboat while he was at his Louisiana plantation. Summoned to the landing by the passengers' shouts, he quietly received their congratulations.

Taylor was born in Virginia in 1784 but nine months later his family moved to Kentucky and soon after their



arrival built a comfortable brick house near present-day Louisville. This home where Zachary spent his boyhood is now privately owned. Before he could read or write young Zachary learned the ways of the frontier and to be constantly on guard against hostile Indians; each night the house was barricaded and the family armed.

Taylor's forty years as an army officer coincided with the critical period of American expansion and took him the length and breadth of the country. During the Black Hawk War while he was stationed at Fort Crawford, Wisconsin, his daughter Sarah Knox Taylor and Jefferson Davis became engaged. Despite Taylor's violent opposition the young couple were married, but the lovely bride died a few weeks afterwards.

Although the army was Taylor's career his greatest joy was farming and he preferred old clothes to a uniform. He acquired the sobriquet Rough and Ready during the Seminole War in Florida, and it was an apt description. He became a major general but he remained simple and unassuming, displayed reckless disregard for danger and insisted on sharing the rugged life of his troops. When the Mexican War ended he had not slept under a roof for two years or seen any member of his family.

As the hero of Buena Vista, Taylor was persuaded to run for President and was elected in a five-cornered contest but he died in 1850 after only sixteen months in office.

The Home, through its agents and brokers, is America's leading insurance protector of American homes and the homes of American industry.

☆ THE HOME ☆
Insurance Company

Home Office: 59 Maiden Lane, New York 8, N. Y.
FIRE • AUTOMOBILE • MARINE

The Home Indemnity Company, an affiliate, writes Casualty Insurance, Fidelity and Surety Bonds

Copyright 1951, The Home Insurance Company

Growth Aspects of the Insurance Business

JOHN A. DIEMAND

A QUESTION FREQUENTLY PRESENTED is whether the business of fire, marine, and casualty insurance can be considered a "growth industry." To this my answer is an emphatic "yes!"

PREMIUM VOLUME LAST YEAR

Last year the total premium volume in all lines for all companies amounted to approximately \$8½ billion. Five billion was in casualty, and \$3½ billion in fire and marine. These figures represent an increase of 100% during the last five years, and there is no reason to expect any reversal in this trend.

RELATED TO GROWTH OF NATIONAL ECONOMY

The volume of insurance premiums is directly related to the growth of the national economy. So long as there is growing business in the Nation, the volume of premium writings by fire, marine, and casualty companies will continue to rise. It must be borne in mind that, every time new wealth of any kind is created, there is an automatic increase in the sphere of insurable values. Every new structure—building, bridge, or tunnel—every new ship, every new automobile off the assembly line, every new manufactured product and every new raw material from which it is made, every new form of transportation by air, rail, water, or automobile (even every new mink coat) provides possibilities for insurance in all its many forms. Moreover, we are continuing to find new forms of coverage to meet the insurable needs of industry and the public. As a result of recent legislation we are now able to take care in one company of all the needs of a policy holder, with the exception of the unusually large risk. No longer is a company required to operate purely as a fire, or a marine, or a casualty company. Today we have insurers authorized by law to write under a single charter every line of insurance except life and annuities. American companies can now compete in all parts of the world, writing all lines on precisely the same basis as their foreign brethren.

UNDERWRITING PROFITS WILL CONTINUE

It is logical to expect that, as the volume of premiums written increases, underwriting profits will continue. This may not be so in each and every year to come, but one must never judge the business of insurance on the basis of a single year's experience. In our own companies, for example, over the last five years the single-year underwriting results have ranged from minus 8% to plus 11.55% of the premiums earned; yet the average for the five years has been a profit of 3.42%. During the last twenty-five years fire insurance companies as a whole have had only six years of underwriting loss as against nineteen years of profit. Casualty companies for the same period had ten years of underwriting loss as against fifteen years of underwriting profit.

Moreover, in prophesying underwriting profits, the statements in a previous paragraph about the ability of a single company to write all lines of insurance must be taken into account. It is rare that any one company or group of companies engaged in multiple-line operations in fire, marine, and casualty business will be exposed to an underwriting loss in each class in each year. If the casualty business shows a loss, fire and marine usually shows a profit. When the casualty lines show a profit, the fire and marine will usually do so as well. The casualty business is the most volatile, but with frequent rate changes its loss ratios can be bettered within a short period of time. For only one period over many years, namely, from 1945 to 1947, did the fire, marine, and casualty companies jointly show an underwriting loss. In the year 1951, while the casualty companies again showed a substantial loss, the fire and marine companies produced an even greater profit; so that the over-all operations were in the black.

MUST NOT OVERLOOK MARINE

Moreover, in discussing over-all prospects, one must not overlook marine insurance. Except for such flashes of sheer drama as the loss of the *Flying Enterprise* under "stick-to-the-ship Carlsen," this business does not often catch the eye of the general public, but it is the oldest and one of the strongest members of the multiple-line team. Operating with their rates and forms free from state or Federal regulation, marine underwriters have been turning in modest (and occasionally substantial) profits, year after year. The American marine insurance market is second only to that of London, and, if its underwriters can carry on their plans to improve its facilities, the American market may become the most important in the world. The growing dependence of the United States on imported commodities, such as petroleum and certain ores and metals, will make certain that the level of foreign trade will be high in the years ahead. The growing American capacity to insure both hulls and cargoes should find its outlet in this trade.

EVER-LARGER INVESTMENT INCOME

Not only should underwriting profits increase, but also it is logical to expect that the business will receive an ever-larger investment income—a fact of special interest to financial analysts. As insurance companies increase the volume of their premium writings, state laws will compel them at the same time to increase their premium and loss reserves. These reserves, in turn, cannot be allowed to stand idle. The funds composing them will find their way into the investment market. Stock fire insurance companies over the last ten years had an investment income that ranged from 2.5 to 3.2% of their invested assets. For casualty companies during the same period the range was 2 to 2.5%. Because of the highly volatile nature of the

casualty business, a more conservative investment policy is followed in it than with fire and marine companies, although casualty portfolios show an increasing proportion of common stocks.

FACES MANY AND REAL PROBLEMS

Were this article to continue on this note of undiluted optimism, our analytically minded readers might assume that the insurance business has no problems. Our business faces many and real problems, but each problem has its answer, and there is no reason to believe these problems will not be solved.

FOREIGN COMPETITION

One problem of general concern to the United States at large, as well as to the insurance industry, is that of foreign competition. A great deal of insurance has been and still is placed in foreign markets. When this occurs, the several states are deprived of premium taxes, and the Federal Government loses the tax on the profits of this business.

This condition need not continue. When we consider the great policy holders' surpluses of our leading insurers, together with the more modest assets of hundreds of smaller companies, there is no doubt in the minds of many of us that a foreign market is not essential to our industry. Granted proper organization, all the needs of American business, commercial, industrial, and private life, could be taken care of in the American insurance market. It may take some time to bring about this organization, but I believe that we shall ultimately be able to recapture and retain the majority of the insurance business now exported.

INERTIA OF REGULATORY AUTHORITIES

There is a second problem, not universal in American business, but shared by insurance and utilities. I refer to the inertia of regulatory authorities in resisting departure from traditional practices.

Each state in which we do business has a department of insurance, presided over by a commissioner or superintendent, generally appointed by the Governor. The average tenure of office for these officials is slightly over two years. This is too short a time in which to master the manifold complexities of insurance. A commissioner has hardly time to "get his feet wet" before someone else comes to take his place. It naturally follows that decisions on constructive departures from existing practices will, far too often, be delayed or sidetracked because of timidity, inexperience, or purely political motives. Recent examples of this attitude are found in the bureau rulings on installment premium plans, "package policies," catastrophe excess of loss coverages and rate deviation—all clearly designed for the benefit of the insuring public.

Such an attitude is clearly inconsistent with the legislative philosophy which led to the "multiple-line" laws that I have previously mentioned. It also clashes with the stated purpose of the rating laws, from which these officials derive their authority, and in which it is declared (in keeping with the decision of the Supreme Court of the United States and the McCarran Act of Congress) that competition should not be stifled.

Unfortunately this attitude of public officials is shared

to some extent by private groups of insurers who seek to superimpose, on bureaucratic red tape, measures of company regulation designed to preserve the status quo and to thwart the aims of progressive and independent companies.

RESISTANCE TO PROGRESS CANNOT PREVAIL

However, resistance to progress is something with which we are all familiar, and we all know that it cannot prevail. It never had in this country, or we should still be European colonies. The buying public has always insisted on progress, and its voice is always heard sooner or later.

SPIRAL OF RISING COSTS

Finally, I will touch briefly on some aspects, peculiar to insurance, of a problem which plagues us all—the whirlwind spiral of rising costs. This phenomenon has an especially troublesome effect on the insurance business, which is essentially one of deferred liability. This is especially true of the casualty lines. Many months, and sometimes years, may pass from the time a policy is written until a loss occurs. Again, there will be an interval until settlement is reached and the loss paid. Recently this has meant that premiums have been collected on one basis at the same time that losses were being paid on another, much higher one.

ADVERSE EFFECT ON CASUALTY LINES

Inflation, operating in this fashion, has had a drastically adverse effect on a number of casualty lines. The record was particularly bad on automobile bodily injury and property damage liability business. Severe losses began to appear in the final quarter of 1950 and continued even higher in the first quarter of 1951. For exactly the same reason, the traditional margin of profit in the general liability business during the past year has been substantially reduced for most companies and has disappeared for many of them. A similar result has occurred in the surety field. There have been many contract bond losses particularly in the southwestern part of the United States. Many contractors were caught between rising costs of labor and materials and fixed bid prices. Their financial position was thus impaired, and on subsequent work they found themselves unable to complete their jobs.

Thus far we have dealt only with the direct results flowing from the fact that "the old greenback ain't what she used to be." Additional troubles stem from the growing willingness to spend insurance money, on the part of those with power to do so.

WORKMEN'S COMPENSATION LAWS

One instance of this, where the underlying motives can not be criticized, is the action of a majority of the states in liberalizing the benefits provided by their respective workmen's compensation laws. In many instances these laws have been amended to provide unlimited medical expenses to persons injured in industrial accidents. I should emphasize that insurance companies are not in any way opposed to the humanitarian purposes that inspire such legislation. Their only concern is that rates be adjusted to reflect such liberalization. Here again, past loss experi-

ence underlying current rates did not portray present conditions, and the rates now charged for insurance in this field are inadequate.

HIGH VERDICTS IN INJURY CASES

Another instance of insurance money being spent for us faster than we contemplated when we made our rates is found in a growing tendency of juries to render staggeringly high verdicts, which in bodily injury cases have reached the point of absurdity. Since 1945 verdicts ranging from \$100,000 to \$200,000 have been fairly numerous. Some have been as high as \$400,000. While these represent only a small proportion of the whole, they, as well as the greater number in the lower brackets, have influenced both the disposition of these lawsuits and the average amount paid. That the lessened purchasing power of the dollar, the increased cost of medical and hospital services, and greater earning power should be considered by the jury in evaluating a case cannot be questioned, but in many instances it is obvious that the jury has been influenced by prejudice and a desire to share the wealth.

PUBLIC SPENDING THEIR OWN MONEY

To this problem of excessive verdicts there are two answers. One lies with the courts through their power to control and set aside improper jury awards. A strong hope for solution lies in bringing to the attention of the public the fact that they, who compose juries, are spending their own money. Ultimately insurance rates must reflect the cost of doing the insurance business.

To clear up such misapprehension it might be noted that the increase in automobile liability insurance rates which occurred in 1951 appears to have given the erroneous impression that those rates, like everything else, have soared far above prewar levels. Actually this is not the fact. At the close of 1951 the country-wide average rates of stock companies for this form of insurance were only 35% above prewar levels. Between 1941 and 1950 the average claim

cost for bodily injury rose 55% and that for property damage 125%.

PRICES MUST FOLLOW

Here, of course, is the crux of our problem and the key to its solution. If costs go up, prices must follow. This trite but true principle has already begun to be recognized by some state officials. One by one they are giving up their traditionally literal reliance on the experience of the past as a basis for constructing rates for the future. Somewhat belatedly a trend factor is being introduced into rate making, so as to derive from past experience a more reasonable reflection of current conditions.

MAY ELIMINATE UNDERWRITING LOSS

It is generally believed that, if the loss level of the last quarter of 1951 does not worsen, the rate increases received a year ago for automobile liability insurance may reduce and perhaps eliminate the underwriting loss in this field, and similar adjustments can be expected to bring equal or greater benefits to other lines.

NOT EQUALLY ACUTE IN ALL LINES

Moreover, the problem of increasing costs which we have been discussing is not equally acute in all lines. On those policies where benefits to be paid are fixed in advance, which is true of accident insurance, a general rise in costs is of less concern. Accordingly, the accident business has been very profitable, and companies writing an appreciable volume of it have a correspondingly better chance for overall profit.

As was stated at the beginning of this article, insurance in this country is essentially a growth industry; since this is essentially a progressive Nation. However, no growth is free from problems—of which both the industry and the country have had a fair share in a century and a half of joint existence. You may be sure that in the future, as in the past, the problems will pass while the growth will continue.

RADIO CORPORATION OF AMERICA



Dividend Notice

The following dividends have been declared by the Board of Directors:

First Preferred Stock

87½ cents per share on the First Preferred Stock, for the period October 1, 1952 to December 31, 1952, payable January 2, 1953, to stockholders of record at the close of business December 15, 1952.

Common Stock

A dividend of 50 cents per share on the Common Stock, payable November 24, 1952, to stockholders of record at the close of business October 17, 1952.

ERNEST B. GORIN,
Vice President and Treasurer

New York, N. Y., October 3, 1952

Avisco

AMERICAN VISCOSE CORPORATION

Dividend Notice

Directors of the American Viscose Corporation at their regular meeting on October 1, 1952, declared dividends of one dollar and twenty-five cents (\$1.25) per share on the five percent (5%) cumulative preferred stock and fifty cents (50c) per share on the common stock, both payable on November 1, 1952, to shareholders of record at the close of business on October 15, 1952.

WILLIAM H. BROWN
Secretary

Materials Handling Equipment

Locks
Builders' Hardware



YALE & TOWNE

256th Dividend
since 1899

On June 26, 1952, dividend No. 256 of fifty cents (50c) per share was declared by the Board of Directors out of past earnings, payable on Oct. 1, 1952, to stockholders of record at the close of business Sept. 10, 1952.



F. DUNNINGO

Executive Vice-President and Secretary

THE YALE & TOWNE MFG. CO.

Industrial Location and the Problem of the Migrant Firms

JOHN D. GARWOOD

NO PERIOD IN AMERICAN ECONOMIC LIFE has been more conducive to industrialization than the years following World War II. The end of the conflict found billions of dollars in savings in the hands of individuals and institutions. A sizable portion of these savings found their way back into the national income stream in the postwar years. Individual buyers acquired new automobiles, houses, washing machines, and a whole host of desired consumer's goods. Corporate institutions replaced worn-out equipment and initiated building programs on a vast scale.

SELLER'S MARKET OF VAST PROPORTIONS

The well-worn phrase, "Some one's spending is some one's income," is a rough rule-of-thumb explanation of what happened the country over during these years. The tremendous pentup demand for goods and services which had accumulated during the years of hostilities created a seller's market of vast proportions. This market in turn led to the initiation of new industry and the intensifying of economic endeavor from Maine to California and from the Canadian border to the Gulf.

An interesting aspect of this period is the diversity of industrialization from state to state. The Pacific Coast and the South experienced industrialization of immense proportions. No state was completely by-passed by new industries, although in many the pace was considerably slower than that of the Coast and the South.

COLORADO HAS ATTRACTED NEW INDUSTRY

The state of Colorado has attracted new industry for many different reasons. Although the state is rich in minerals, these have had little to do with the state's industrial growth since the war. Colorado leads the Nation in production of molybdenum, vanadium, and radium, is second in production of feldspar, third in production of tungsten, fourth in production of lead, and twelfth in production of petroleum. Over 200 different minerals have been reported in the state but only about 45 have been commercially exploited.

New firms have been attracted to Colorado for reasons that students of industrial location would classify as other than primary factors, that is, if the primary factors are materials and markets. The forces "pulling" industry into the state have included climate, labor, sites, and the attractiveness of many of the smaller cities of the state.

MARKETS

Of all the factors orienting industrial location, no element is of more importance than markets. The greatly expanded market in the South is by far the most potent

factor that has brought new industry to the southland. Over 2 million Southerners have found employment in the new factories established below the Mason-Dixon line since 1941, and this purchasing power thus generated has further strengthened the market potential. The same situation exists on the Pacific Coast: New industry has been attracted by the market and in turn the market influence has been augmented by payrolls that have accrued.

ROCKY MOUNTAIN WEST LESS FORTUNATE

The Rocky Mountain West has been less fortunate. In the first place, the Mountain States have a lower-than-average population density per square mile (Colorado 11 persons per square mile, while the United States as a whole has 50 persons per square mile) and second, and of no less import, is the fact that manufacturers in the Rocky Mountain area are located great distances from markets of any consequence. In addition, in markets out of the mountain area, competition of local producers who have smaller transport costs is an almost insuperable obstacle.

ABSENCE OF A STRONG MARKET

Thus, the absence of a strong market provides the coup de grace for hope of large-scale industrial expansion. When an area is thus situated, two deterrents of a more minor nature usually follow: namely, a dearth of industrial supplies and banking facilities ill suited to industry needs.

I recently completed a survey of 116 new manufacturing firms in Colorado and Utah. The study sought to find the reasons for location in these two states. In compiling this information personal interviews were made with the owners and operators of the new manufacturing establishments. The data thus gathered pointed up the difficulty of industrialization in states that start with a small industrial base.

THE PROBLEM OF INDUSTRIAL SUPPLIES

The layman may think of a factory in terms of finished products pouring off the assembly lines, hour after hour, and thence to the consumer. In reality, as every manufacturer knows, the end product resulting in a finished good is a culmination and a combination of many and varied types of activity, ranging from the problems of assembly to the selling of the product. The plethora condition of the production lines in the '30's has probably had much to do with popular thought on the matter.

To the worker as an integral part of the producing process, production is his small task in the line; to the executive, production is the solution of hundreds of problems which may be resolved in an endless number of ways. Thus, only the executive branch of the production process can fully comprehend the magnitude of the task at hand.

Initially there is the selection of the factory site with all the alternatives that invites. Lines of communication into and out of the factory must be secured. Then there is the problem of production itself. The act of producing entails records and accounts of every movement of goods, finished and unfinished. In the last two decades a factor heretofore unrecognized has come to the fore—in a word, the Government.

LOCATION MUST BE SELECTED WITH CARE

The point is that, with so many variables brought into focus, an industrial location must be selected with the utmost of care. Some influences may not be readily apparent at the inception of operations. The problem of industrial supplies may escape notice for a while, but eventually it will present itself. New industrial concerns in Colorado will attest to this fact.

Industrial supplies as mentioned here does not mean raw materials used in production; rather, it is meant to include repairs and parts for machines and small tools. The complaint of a number of representatives of new firms in Colorado has been that, in many instances, these supplies are not available, and, where available, they are priced considerably higher than they would be elsewhere.

EXPERIENCE OF ONE FIRM

The experience of one firm in southern Colorado is illustrative of this. The manager of this firm compared two invoices for identical products, one purchase being made from a company in Illinois and the other from a company in Colorado Springs. Although the parts thus purchased were identical in every aspect, the Colorado Springs purchase ran about 30% higher. Obviously one comparison is not conclusive proof of price discrepancies. Nevertheless, where a company was continually purchasing industrial supplies, representatives of the firms continually confirmed this state of affairs.

As noted previously, some firms in the area were unable to secure needed parts. The manager of a Denver firm said, "It's like being on an island out here, we can't buy our industrial supplies locally. In our plants in the East we can call up our suppliers and in an hour have the needed part and be back in operation. We just can't do that here. We have to call Chicago and wait a day or so to have the stuff flown out."

Thus, it has been a common experience for a firm to locate in the state and then discover after operations were under way that materials were in short supply. In the industrial East and on the Pacific Coast, industrial suppliers have grown with industrial expansion in those areas, and so, consequently, there is no problem as far as supplies are concerned. Too, with a well-established industrial base, suppliers become well established and alert their supplies to calculated needs.

In a less industrialized region and in a region new to industry suppliers always run behind economic growth. Colorado is no exception to this fact. Thus, because of the relatively small demand for industrial equipment supplies in the mountain region, there are few sources of such goods. Because of the smaller volume of sales, suppliers do not build up their stocks of supplies and parts. When a

demand is placed with them for these goods, in many instances they have not been able to supply the items requested. Further, because of their small sales volume, suppliers feel obliged to charge a higher price for their products than would prevail in, say, Chicago.

PROBLEM WILL REMAIN

It is probably that, unless the mountain states become more highly industrialized by industries that bring with them a heavy demand for miscellaneous parts and supplies, this problem of shortages and higher prices for supplies will remain. It represents no strong deterrent to location in the area, but it is a source of irritation and complaint for manufacturers new to the region who are accustomed to easy access to needed parts and repairs.

BANKS AND INDUSTRY LOANS

Another complaint which is often made of the Colorado industrial frame of reference is that the bankers in the area are overly cautious insofar as loans to industry are concerned. It is alleged that the bankers of the region are familiar with cattle and the cattleman's problem but they do not comprehend the needs of industry.

Illustrative of this contention is the view expressed by the manager of a branch of a Texas company located in Denver. It was noted by the manager of this branch office that the ratio of loans to deposits in Colorado was considerably smaller than comparable ratios in Texas. He said, "This is indicative to me that bankers in Colorado are too conservative, are afraid to loan money. In Texas we do not have this trouble." Another firm representative commented to me that requests for loans refused in Denver are oftentimes readily granted by New York banks.

BANKING PROBLEM OF MINOR SIGNIFICANCE

Although a deterrent force to continued industrial expansion, the "banking problem" is probably of minor significance in the over-all picture. It is likely that this lag in banking practices will continue in the area unless large-scale industrialization comes to the state.

CONCLUSION

Industry is attracted by many factors, of which materials and markets may be regarded as primary reasons for location. The secondary factors are numerous and of varying degrees of importance. It is not uncommon for a few of the minor needs of a firm to receive scant attention when a location is premised. Once operations get under way, these needs may present themselves more or less quickly.

Too frequently ignored needs are those of industrial supplies and banking services. In states that have little heavy industry a problem in each of these areas is nearly always posed. The postwar industrial experience of the state of Colorado is a good example of this.

INCREASED INDUSTRIALIZATION

The resolving of these problems can come only with increased industrialization. Meanwhile these problems, although not deterrents of a major nature, are sources of irritation and complaint to firms that have been accustomed to being serviced efficiently in these two categories.

Significant Railroad Income Account Data Expressed in Percentage of Gross Revenue

As has been our custom in recent years, we are presenting these significant railroad statistics which have been prepared by one of our railroad analysts.

Table 1. Carriers Not Reorganized Since 1929

	Atch. Top. & S. Fe.	Atl. Coast Line	Ches. Ohio	Chic. Burl. & Quincy	Del. Lack. & West.	Del. Hudson	Great Northern	Illinois Central	Kansas City Consol.	Kansas City So. Consol.	Louis. Nash.	Maine Central	Mo. Kansas Texas	Class I (b)
Gross Revenues	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Passenger Revenues	9.2	12.7	2.5	7.2	10.9	3.3	5.4	7.9	3.9	3.6	6.5	6.0	6.5	8.6
Maintenance Expenses	34.9	36.8	32.3	30.4	29.5	34.4	33.5	32.7	23.4	25.9	35.1	37.1	28.9	33.1
Transportation Expenses	33.3	36.8	32.9	35.1	44.9	37.8	35.2	36.9	30.0	29.5	36.6	34.5	37.6	37.9
Total Operating Expenses	74.7	80.5	71.0	71.0	80.2	77.8	74.3	75.7	58.8	61.3	76.8	75.0	75.0	77.2
Taxes: Federal Income	6.3	5.5	10.8	9.2	2.5	5.1	7.2	5.1	13.8	12.7	9.0	6.7	5.6	5.0
" : Other	5.9	5.8	6.0	6.3	7.9	6.1	7.6	7.2	5.3	5.2	6.5	6.3	5.9	6.1
Jt. Facility & Equip. Rent.	0.5	1.9	cr. 1.2	2.2	cr. 0.1	cr. 0.9	1.5	1.6	6.0	5.9	cr. 3.1	1.3	4.4	1.9
Net Wray. Oper. Income	12.6	6.3	13.4	11.3	9.5	11.9	9.4	10.4	16.1	14.9	10.8	9.7	9.1	8.8
M.R.O.I. before Fed. Inc. Tax.	18.9	11.8	24.2	20.5	12.0	17.0	16.8	15.5	29.9	27.7	19.8	16.4	14.7	14.8
Other Inc. Less Other Deductions	1.7	5.4	0.1	0.4	3.8	0.3	3.6	4.0	1.1	1.0	2.8	0.5	0.5	2.0
Available for Fixed Charges	14.3	11.7	13.5	11.7	13.2	12.2	13.0	9.5	17.2	15.9	13.6	10.2	9.6	10.8
Fixed Charges	1.1	3.4	3.1	2.2	5.5	3.1	3.3	3.2	5.4	4.5	3.5	4.7	3.4	4.0
Times Earned	13.2x	3.4x	4.3x	5.2x	2.4x	3.9x	3.9x	2.9x	3.2x	3.5x	3.9x	2.3x	2.8x	2.7x
Contingent Interest	0.3%	-	-	-	0.6%	3.6%	3.6%	-	-	-	-	-	0.9%	0.4%
Times Earned, Overall	10.0x	3.4x	4.3x	5.2x	2.2x	1.8x	3.0x	2.9x	3.2x	3.5x	3.9x	2.2x	2.8x	2.4x
Net Income	12.0%	8.3%	10.4%	9.5%	7.1%	5.5%	9.7%	6.3%	11.8%	11.4%	10.1%	5.5%	5.3%	6.4%
Preferred Dividend Requirement	1.1	-	0.2	-	-	-	-	0.4	1.9	1.2	-	0.9	5.0	NA
Times Earned Overall	5.7x	3.4x	4.0x	5.2x	2.2x	1.8x	3.9x (a)	2.6x	2.4x	2.8x	3.9x	1.8x	0.9x	NA
Available for Common	11.8%	8.3%	10.2%	9.5%	7.1%	5.5%	9.7% (a)	5.9%	9.9%	10.3%	10.1%	4.6%	d. 0.6%	NA
Earned Per Sh. Common	\$13.83	\$15.98	\$ 4.80	\$14.78	\$ 3.77	\$ 6.20	\$ 7.74 (a)	\$12.72	\$8.59	\$ 9.94	\$ 9.74	\$10.12	d. \$0.61	NA
Depreciation	4.4%	4.0%	5.5%	4.5%	5.5%	3.6%	4.2%	4.3%	3.4%	3.4%	4.3%	4.3%	4.4%	NA
Deprec. as a % of Fixed Chgs.	406.1	118.4	172.3	198.8	100.6	113.2	126.7	132.2	62.7	74.9	123.2	91.6	126.9	NA
Working Capital	21.3	13.2	7.8	5.0	17.8	25.0	17.8	11.2	15.2	17.8	17.1	10.7	13.2	NA
Coverage of Fix. Chgs. by Work. Cap.	19.6x	3.9x	2.4x	2.2x	3.4x	7.9x	5.4x	3.5x	2.8x	3.9x	4.9x	2.3x	3.8x	MI
Transportation Ratio 1941	33.1%	35.5%	25.3%	33.6%	41.2%	33.5%	27.9%	34.4%	29.4%	26.8%	31.2%	34.1%	35.2%	33.2(c)
" " 1947	34.1	42.4	35.7	34.3	45.5	38.4	35.9	36.3	29.5	30.5	41.8	39.8	40.0	40.0(c)
" " 1948	34.9	42.9	35.9	34.5	43.4	38.2	36.9	37.1	27.6	28.9	42.0	37.7	39.2	39.5(c)
" " 1949	33.2	41.9	36.4	35.2	45.1	41.8	35.4	36.7	29.2	30.4	41.9	38.0	37.1	39.8(c)
" " 1950	30.2	38.0	32.9	33.0	43.8	38.1	33.5	35.3	28.9	28.8	37.1	35.7	35.0	36.9(c)
" " 1951	33.3	36.8	32.9	35.1	44.9	37.9	35.2	36.9	30.0	29.5	36.8	34.6	37.6	37.9

(a) Preferred stock, sole equity.

(b) Twelve months ended November 30, 1951.

(c) Calendar year.

Table 1 (Continued)

New York Central	New York Norfolk & Chicago & St. L.		Western Pacific		Northern Pacific		Penn.		Reading		St. L. South West		Southern Railway & Pacific		Union Pacific		Virg. Rwy.		West. Maryland	
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
15.2	1.3	2.9	4.4	15.0	5.3	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
33.1	27.8	32.1	34.6	36.5	35.5	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	
46.1	35.3	39.6	37.8	43.8	39.4	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	
85.3	68.6	66.9	78.9	85.5	79.3	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	
0.4	9.8	16.9	5.8	0.9	6.1	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	
7.0	4.9	7.0	8.2	5.7	5.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
2.3	2.8	cr. 5.3	cr. 2.3	2.2	cr. 1.0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
5.0	13.9	14.5	9.4	5.7	10.2	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	
5.4	23.7	31.4	15.2	6.6	16.3	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	
2.6	0.7	1.2	5.7	3.3	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
7.6	14.6	15.7	15.1	9.0	11.5	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	
5.8	3.1	0.8	5.9	5.8	4.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
1.3x	4.7x	18.8x	2.6x	1.6x	2.7x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	
1.8x	4.7x	18.8x	2.6x	1.4x	2.7x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	7.5x	
1.8x	11.5x	14.9x	9.2x	2.6x	7.2x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	11.3x	
1.3x	3.3x	12.5x	2.6x	1.4x	1.8x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	4.1x	
1.8x	10.2x	14.5x	9.2x	2.6x	5.1x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	9.9x	
\$ 2.28	\$ 8.79	\$ 5.31	\$ 6.44	\$ 2.03	\$ 4.81	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	\$ 39.98	
4.4x	3.3x	4.7x	4.7x	4.5x	5.0x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	2.4x	
77.1	104.9	566.8	79.7	77.9	117.3	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	135.5	
6.4	7.8	17.3	18.3	15.5	5.6	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	
1.1x	2.5x	20.8x	3.1x	2.7x	1.8x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	3.1x	
36.3x	31.4x	20.5x	32.2x	34.9x	34.5x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	27.0x	
45.5	38.2	30.1	35.7	47.9	39.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	
44.8	35.2	31.3	36.1	45.2	36.8	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	
45.8	36.5	33.3	37.8	45.4	42.0	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	
44.2	32.6	29.9	34.6	41.8	39.0	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	
46.1	35.3	29.6	37.8	43.8	39.4	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	

Gross Revenues
 Passenger Revenues
 Maintenance Expenses
 Transportation Expenses
 Total Operating Expenses
 Taxes: Federal Income
 " : Other
 Jt. Facility & Equip. Rent
 Net Rwy. Oper. Income
 N.R.O.I. before Fed. Inc. Tax.
 Other Inc. Less Other Deductions
 Available for Fixed Charges
 Fixed Charges
 Times Earned
 Contingent Interest
 Times Earned, Overall
 Net Income
 Preferred Dividend Requirement
 Times Earned Overall
 Available for Common
 Earned Per Sh. Common
 Depreciation
 Deprec. as a % of Fixed Chgs.
 Working Capital
 Coverage of Fix. Chgs. by Work. Cap.
 Transportation Ratio 1941
 " " 1947
 " " 1948
 " " 1949
 " " 1950
 " " 1951

Table 2. Carriers Reorganized since 1929 or Still in Reorganization

	Balt. & Ohio	Boston & Maine	Central of Georgia	Chicago & East. Ill.	Chicago Great Western	Chicago Ind. & Louis.	Chicago Mil. & St. Paul	Chicago & North. West.	Chicago R.I. & Pacific	Colorado & Southern	Denver & Rio Grande	Erie	Florida East Coast	Gulf Mobile & Ohio	Class (Ic)
Gross Revenues	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Passenger Revenues	5.8	12.9	7.2	10.4	0.9	4.5	7.4	11.0	10.3	6.3	4.7	4.1	21.8	6.0	8.6
Maintenance Expenses	35.8	36.6	34.1	39.4	32.6	32.2	33.5	34.3	28.6	25.9	28.5	27.9	32.1	34.1	33.1
Transportation Expenses	39.8	48.7	43.5	37.9	33.2	35.5	42.4	46.4	38.8	36.0	32.0	40.7	39.1	29.5	37.9
Total Operating Expenses	51.2	81.2	80.5	76.8	72.2	78.1	82.7	87.7	76.0	67.8	67.3	75.5	80.7	71.8	77.2
Taxes: Federal Income	2.8	2.1	-	3.9	3.4	4.1	2.7	0.3	4.4	15.0	11.1	4.0	-	6.8	6.0
: Other	5.0	6.7	6.5	5.1	5.2	4.2	6.5	6.1	5.8	6.1	6.6	6.2	5.4	5.9	5.1
Jt. Facility & Equip. Rent.	2.9	4.5	1.9	3.8	10.3	5.8	2.3	2.3	5.1	2.5	0.1	3.2	5.3	4.7	1.9
Net Revy. Oper. Income	8.1	5.5	5.1	10.4	8.9	7.8	8.8	3.6	8.7	8.6	15.1	11.1	7.6	10.8	8.8
E.R.O.I. before Fed. Inc. Tax.	11.0	7.6	5.1	14.3	12.3	11.9	8.5	3.9	13.1	23.6	26.2	15.1	7.6	17.6	14.8
Other Inc. Less Other Deductions Available for Fixed Charges	1.8	0.6	1.2	1.0	0.2	1.8	1.2	1.0	0.5	7.8	0.5	0.6	1.2	0.5	2.0
Fixed Charges	4.1	3.5	1.7	3.0	2.6	1.2	1.6	1.3	1.4	2.5	2.8	2.9	15.6	2.5	4.0
Times Earned	2.42	1.82	3.72	3.82	3.82	7.82	4.32	3.42	6.52	6.52	5.52	4.02	0.62	4.52	2.72
Contingent Interest	1.65	1.95	1.55	1.95	0.45	2.75	1.65(b)	1.65	-	2.85	2.15	1.25	-	1.35	0.45
Times Earned, Overall	1.82	1.82	2.02	2.32	3.12	2.62	2.82	1.52	6.52	3.42	3.22	2.82	0.62	2.92	2.42
Net Income	4.25	1.55	3.15	6.55	6.15	5.75	3.95	1.75	7.85	11.75	10.75	7.65	46.85	7.55	6.45
Preferred Dividend Requirement	0.5	1.5 (a)	2.0	2.3	2.6	2.0	2.1	2.2	1.8	4.1	2.1	1.2	-	1.6	NA
Times Earned, Overall	1.62	1.02(a)	1.52	1.62	1.62	1.62	1.32	0.92	2.62	1.62	2.22	2.22	0.62	2.12	NA
Available for Common	3.75	4.05(a)	1.15	4.25	3.55	3.75	1.75	4.05	6.05	7.65	8.65	6.45	46.85	5.95	NA
per sh. Common	\$ 6.55	\$ 40.50(a)	\$ 1.38	\$ 3.79	\$ 3.41	\$ 4.01	\$ 2.10	\$ 4.02	\$ 8.44	\$ 4.08	\$ 10.07	\$ 4.68	\$ 46.39	\$ 5.69	NA
Depreciation	2.95	4.25	4.05	4.75	5.05	4.45	5.75	6.15	3.85	3.75	4.95	4.25	4.35	4.55	NA
Deprec. as % of Fixed Chgs.	97.6	120.4	125.5	158.6	195.4	359.1	340.0	456.8	270.5	144.7	173.0	144.4	27.8	131.8	NA
Working Capital	9.0	14.8	17.3	8.1	8.5	17.5	17.1	8.9	13.8	2.8	34.0	8.0	70.9	17.8	NA
Coverage of Fix. Chgs. by Work. Cap.	3.22	4.32	10.12	2.72	2.62	14.32	10.52	6.52	9.82	1.12	12.12	2.72	4.52	7.12	NA
Transportation Ratio - 1941	32.05	36.05	36.55	38.55	34.85	31.75	33.75	36.35	34.35	35.45	35.15	36.35	33.95	33.35	33.2(1)
" 1947	43.8	48.9	44.4	44.6	41.0	41.0	41.0	44.0	38.0	41.3	37.1	44.3	38.9	32.7	40.0(1)
" 1948	41.9	41.4	46.9	43.0	40.3	38.7	43.1	44.6	38.2	42.3	36.5	40.6	40.3	32.1	39.5(1)
" 1949	42.4	43.5	46.2	42.6	37.9	43.3	47.8	38.5	39.4	36.2	36.2	42.6	37.7	32.3	39.2(1)
" 1950	40.2	41.2	44.3	39.9	30.6	33.8	40.9	44.4	36.5	33.8	34.0	39.9	36.7	30.1	36.9(1)
" 1951	39.8	43.7	43.5	37.9	33.2	35.5	42.4	46.4	39.8	36.0	32.0	40.7	39.1	29.5	37.9

To aid comparisons with unreorganized carriers, capital and sinking funds have not been charged against income accounts, although under indenture provisions they rank ahead of preferred dividends and in some cases ahead of income interest.

(a) New capitalization.

(b) A income interest 1.0%; B income interest 0.6%.

(c) Twelve months ended November 30, 1951.

(d) Not adjusted for the higher Federal tax liability which the new capitalization would entail.

(e) Not allowing for participating feature of preferred stock.

(f) Calendar year.

(g) New Haven showed a deficit of working capital of \$6.9 million, due to a transfer during December to reserve funds. If capital and reserve funds had not been segregated, working capital of \$26.0 million would have equaled 16.3% of gross, and covered fixed charges 4.5 times.

Table 2 (Continued)

Lehigh Valley	Minn. & St. Louis	Wm. St. & P. S. Pacific	New Orleans, Texas & Mexico	Int'l. Texas & Great Mexico	Mo. Pac. System	Mo. Pac. System	New York, Norfolk & San	Seaboard	Western	Wisc. Central
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5.1	0.6	2.5	5.2	2.8	37.4	7.0	5.1	5.1	5.1	1.7
32.1	30.7	39.2	37.2	34.8	37.4	37.4	36.9	31.4	33.4	31.8
38.8	32.2	39.6	38.1	39.4	37.6	37.6	37.6	32.2	37.2	42.5
76.7	75.2	84.5	80.7	74.5	82.8	82.8	80.1	80.0	77.8	80.9
2.2	7.6	1.1	1.3	5.3	0.5	0.5	1.8	1.6	6.8	5.9
6.7	5.7	6.7	5.3	4.0	3.8	3.8	5.0	5.0	5.1	5.8
1.3	2.7	1.2	2.7	5.9	4.6	4.6	3.3	3.3	5.1	7.3
13.1	7.8	6.5	10.0	10.3	8.3	8.3	9.8	9.8	10.2	13.8
15.3	15.4	7.6	11.3	15.6	8.8	8.8	11.6	11.6	14.2	18.7
0.9	0.5	0.4	1.9	0.8	0.9	0.9	1.7	1.7	3.6	1.4
14.0	8.3	6.9	11.9	11.1	9.2	9.2	11.5	11.5	8.6	11.3
4.9	0.7	0.1	7.3	6.5	5.0	5.0	7.0	7.0	3.1	1.5
2.8x	11.9x	56.5x	1.6x	1.7x	1.8x	1.8x	1.7x	1.7x	4.4x	3.7x
1.7x	-	2.1x	-	-	2.7x	2.7x	0.3x	0.3x	1.9x	-
2.1x	11.9x	3.2x	1.6x	1.7x	1.8x	1.8x	1.6x	1.6x	4.4x	4.9x
7.4x	7.6x	4.7x	4.6x	4.6x	1.5x	1.5x	4.2x	4.2x	3.1x	6.8x
-	-	-	1.5	-	1.1	1.1	1.6	1.6	2.5	0.5
2.1x	11.9x	3.2x	1.4x	1.7x	1.8x	1.8x	1.7x	1.7x	4.4x	4.9x
7.4x	7.6x	4.7x	3.1x	4.6x	1.5x	1.5x	4.8x	4.8x	10.2x	6.8x
\$ 3.91	\$ 2.77	\$ 2.74	\$ 9.00	\$ 13.76	\$ 7.68	\$ 7.68	\$ 13.73	\$ 2.77	\$ 4.04	\$ 3.16
4.6x	4.9x	3.9x	4.4x	3.4x	3.9x	3.9x	4.2x	4.2x	3.6x	5.7x
92.9	94.1	3803.9	60.5	52.9	76.5	76.5	60.9	122.6	178.2	184.5
15.0	8.7	19.8	29.2	8.7	14.4	14.4	24.6	24.6	11.8	22.8
3.0x	8.1x	159.3x	4.0x	1.4x	2.0x	2.0x	3.6x	3.6x	5.9x	7.4x
32.0x	33.4x	36.7x	32.7x	30.2x	38.3x	38.3x	33.0x	33.0x	34.7	35.5x
46.9	33.3	41.9	39.4	33.3	43.7	43.7	39.0	39.0	39.1	39.1
44.1	32.9	40.4	39.2	32.8	44.2	44.2	39.8	39.8	41.6	41.6
43.7	33.7	40.8	39.9	34.0	41.4	41.4	39.1	39.1	42.5	42.5
40.0	29.9	38.7	38.7	32.2	36.3	36.3	35.3	35.3	34.0	34.0
39.6	32.2	39.5	38.1	33.4	39.4	39.4	37.6	37.6	42.5	42.5

To aid comparisons with unorganized carriers, capital and sinking funds have not been charged against income accounts, although under indenture provisions they rank ahead of preferred dividends and in some cases ahead of income interest.

- (a) New capitalization.
- (b) A income interest 1.0%; B income interest 0.6%.
- (c) Twelve months ended November 30, 1951.

(d) Not adjusted for the higher Federal tax liability which the new capitalization would entail.

(e) Not allowing for participating feature of preferred stock.

(f) Calendar year.

(g) New Haven showed a deficit of working capital of \$6.9 million, due to a transfer during December to reserve funds. If capital and reserve funds had not been segregated, working capital of \$26.00 million would have equaled 16.3% of gross, and covered fixed charges 4.5 times.

Sixth Annual Convention

National Federation of

Bellevue-Stratford Hotel, Philadelphia

Sunday, April 12

- 1:00- 9:00 Registration, Bellevue-Stratford Hotel
6:00- 7:45 Directors' Dinner
8:00-10:00 Annual Business Meeting

CONVENTION CHAIRMAN

MORTON SMITH
Girard Trust Corn Exchange Bank
Philadelphia 2

Monday, April 13

- 8:00 a.m. on Registration, Bellevue-Stratford
9:15-10:30 Which Industries Now?
By two real authorities
10:45-12:00 New Materials
Scope and competitive factors
Titanium, magnesium, aluminum, glass fibers, synthetic fibers, plastics. Analyst summary
Transportation Trends—Volume and Earnings
Railroads, trucks and buses, air lines. Analyst summary
The Influence of the Institutional Investor on the Security Markets
Fire and casualty insurance companies, trust companies, mutual investment funds, pension funds, life insurance, savings funds
The Steel Industry Outlook
Automobiles, building construction. Analyst summary
12:30- 2:30 Luncheon
Report on analyst poll by J. A. Livingston
The Outlook for: (1) Business, (2) The Stock Market (or investment policy)

COMMITTEE CHAIRMEN

Program

A. MOYER KULP
1420 Walnut St.
Philadelphia 2

Forums

WILLIAM H. SHUPERT
Rm. 712, 1682 Chestnut St.
Philadelphia 3

Field Trips

OSBORNE R. ROBERTS
Rm. 788, 123 S. Broad St.
Philadelphia 9

Arrangements

LAWRENCE M. STEVENS
Rm. 902, 1421 Chestnut St.
Philadelphia 2

Registration

THOMAS P. STOVELL
3rd floor, 1528 Walnut St.
Philadelphia 1



Courtesy Philadelphia Electric Company

Harbor and skyline view of city of Philadelphia

Tentative Program

Financial Analysts Societies

April 12, 13, 14, 15, 1953

COMMITTEE CHAIRMEN

Finances

RUSSELL LAMON
1632 Chestnut St.
Philadelphia 3

Publicity and Entertainment

DONALD C. RUBEL
1421 Chestnut St.
Philadelphia 2

NATIONAL COMMITTEE

RICHARD W. LAMBOURNE
President
1711 Mills Tower
San Francisco 4

SAMUEL B. JONES
Executive Vice-President
401 Walnut St.
Philadelphia 6

KENNARD WOODWORTH
Secretary-Treasurer
24 Federal St.
Boston 10

PIERRE R. BRETEY
One Wall St.
New York 5

HELEN SLADE
400 E. 57 St.
New York 22

Monday, April 13 (*continued*)

3:00- 4:15

The Public Utility Industry Outlook
Electric, natural gas distribution, pipe lines
Chemical Industry Trends and Outlook
Including chemical process industries. Analyst summary
The Oil and Natural Gas Industry
Supply and demand, production, earnings and dividends prospects
The Automotive Industry Outlook
Analyst summary
Techniques of Management Appraisal

5:30- 6:30

Cocktail Hour

7:00- 8:00

Buffet Supper

8:00- 9:00

Forum: The Financial Editor Meets the Analyst
3 editors, 2 analysts

9:00-10:00

Informal Open House
To give analysts an opportunity to meet and talk with their friends

Tuesday, April 14

It was originally planned to have a field trip to the new Morrisville Plant of the U. S. Steel Corporation, but the company has advised us that, owing to delays in construction, it will be impossible to conduct large groups of people through the plant at the time the Convention will be held. Instead field trips will be organized to companies in the Philadelphia area such as:

Atlantic Refining Company
American Viscose Corporation
Budd Company
Philco Corporation
Scott Paper Company
Foote Mineral Company
Pennsylvania Salt Manufacturing Company
Sharp & Dohme, Inc.
Smith, Kline & French
Doehler Jarvis
Radio Corporation of America
American Stores
Philadelphia Electric Company

5:30- 6:30

Cocktail Hour

7:00- 8:30

Annual Dinner

8:45- 9:30

National Name Speaker, such as Benjamin Fairless, President of U. S. Steel Corporation, or a man of similar prominence

Wednesday, April 15

It is planned to organize additional field trips some of which may occupy an entire day to companies such as the following:

American Telephone & Telegraph Company, Bell Laboratories, Summitt, N. J.
E. I. duPont de Nemours & Company, Wilmington, Del.
Merck & Company, Rahway, N. J.
Chrysler Tank Plant, Newark, Del.

Philadelphia Invites the Nation

TO THE

Sixth Annual Convention

National Federation of Financial Analysts Societies

April 12 to 15, 1953

Bellevue-Stratford Hotel, Philadelphia



MORTON SMITH
Chairman

Sixth Annual Convention
National Federation of
Financial Analysts
Societies

THE FINANCIAL ANALYSTS SOCIETY of Philadelphia is honored to have been selected as the host Society for the National Convention of our Federation in 1953 to take place on April 12, 13, 14, and 15. The extraordinary success that attended the San Francisco Convention and the splendid "job" done there has set a mark that will be difficult to attain, but we in Philadelphia are bending every effort to make the 1953 Convention an outstanding contribution to the security analysts of the United States.

Philadelphia, the historic city of the Liberty Bell, of the Declaration of Independence, and of the Betsy Ross House, with Valley Forge close by, and many other associations of world renown, together with our suburban areas which are said to be among the most beautiful of any large city in the world, provides an ideal background for any gathering of Americans. For financial and security analysts the whole Delaware River Valley centering around Philadelphia is a region of enormous interest.

It is not generally realized that this section is one of the fastest-growing industrial areas in the United States. Construction of the world's largest and most modern steel plant close to Philadelphia by the U. S. Steel Corporation at Morrisville—the Fairless Works, the growth of the oil-refining industry which has made Philadelphia in this respect

the second largest city in the country, the location here of dynamic enterprises—duPont, Hercules Powder, and many others—are all contributing to the growth of an area that is the most widely diversified industrially in the entire United States.

One important factor aiding this development is the exceptional transportation facilities available to Philadelphia industry. Deepening of the Delaware River channel, which will provide better facilities for the importation of iron ore from Labrador and Venezuela and oil from foreign countries and the Gulf, and the unexcelled railroad facilities furnished by the Pennsylvania, Reading, and Baltimore & Ohio are further supplemented by the great turnpikes which have been constructed in New Jersey and Pennsylvania. These are being steadily expanded west and north.

A tentative program for the Convention of April 12 to 15, 1953, has been drawn up and is presented. Analysts will be given the opportunity not only of visiting the plants but also of talking with the officials of our outstanding companies. While some analysts are thus engaged, it is planned to have "side trips" to Atlantic City, Longwood Gardens, Valley Forge, and the many shrines of historic and esthetic interest in and around our city.

In addition to the regular Convention meetings and the field trips in the Philadelphia area which will immediately follow the meetings on Wednesday, April 15, it is possible that, if sufficient interest is shown and the necessary facilities can be engaged, a special train on the Pennsylvania may be made up to Pittsburgh on Thursday, April 16, to visit many of the important companies in this, the second fastest-growing territory in Pennsylvania.

To analysts who attended or read about the San Francisco Convention, and that means all of you, the Philadelphia meeting will prove in dramatic fashion that, whether in the newer states in the West or the older sections in the East, American industry is opening up new frontiers of progress to challenge the imagination and skill of the investment manager and the security analyst, as well as of the businessman and the engineer.

We are looking forward to seeing you in April in 1953, and we intend to show you that the City of Brotherly Love lives up to its name.

Keep These Dates Open!

April 12, 13, 14, 15, 1953

Committee Appointments for 1952-53

New York Society of Security Analysts

Program

William R. White, *Chairman*

Industrials

Donald H. Randell, *Chairman*
Nathan Bowen
Douglas Delanoy
Louis M. Faulkner
Lawrence R. Kahn
Frank H. Woodfin

Utilities

Lawrence T. Ryan, *Chairman*
George D. Freeman
Theodore J. Komosa
Longley G. Walker

Railroads

Arthur M. Leinbach, *Chairman*
Edward S. Wilson
Isabel H. Benham

Special Subjects

Lancaster M. Greene, *Chairman*
Lawrence W. Fairfax
Norvin R. Greene
Helen Slade

House

Sturgis Macomber, *Chairman*
Lancaster M. Greene
C. Webster Abbott
David S. Bellows
Robert W. Fisher

Constitution

Lawrence C. Cooper, *Chairman*
Gabriel Fabian
Ralph W. H. Geer
Frederick Hurd
John Stevenson

New Membership

Chauncey L. Mitchell, Jr., *Chairman*
Lancaster M. Greene
Joseph S. Stout
Hollis Thayer
Edward Heinbecker
Patrick James

Publications

Pierre R. Bretey, *Chairman*
Helen Slade
Jeremy C. Jenks
N. Leonard Jarvis
Donald B. Macurda

Employment

Jos. C. Bickford, *Chairman*
Leo. J. Larkin
Donald H. Randell
Lyman S. Logan
George L. Perin

Corporate Relations

John F. Childs, *Chairman*
Glenelg P. Caterer
Marvin Chandler
Marjorie Cruthers
Griffith G. de Noyelles
Hugh Pastoriza
Donald H. Randell
John W. Spurdle

Standards

Glenelg P. Caterer, *Chairman*
Walter K. Gutman
David W. McKnight
Benjamin Graham
Norvin R. Greene
Charles B. Eddy, Jr.

THE FEDERAL TAXING PROCESS

Roy Blough
Prentice-Hall, 506 pp, \$5.65

In the United States the general opinion is that the two most important economic differences bearing on the amount of taxes a person should pay are the amount of his income and the extent of his holdings. The allocations of tax demands is an important and complicated subject which will be better understood after one has read this very erudite book.

Many people, thinking taxes are excessive, demand that reductions be made. Taxes are the results of Government spending for national benefits. Though we are not of the opinion that much of this spending is necessary to our way of life, unnecessary outlays not only cut into private funds but reduce the possible Federal revenues as well. To curtail personal assessments, waste must be eliminated. Opinions differ as to the necessary costs as well as to means of collections. Even in instances when the reader is not in absolute accord with the author, a complete understanding (conception) of needs and pitfalls, as presented by this penetrating book, will make possible intelligent suggestions.

One reason for fewer accurate conclusions and unity of opinion lies in our own pressures that force deductions. Each geographic group creates wants, as does each economic division.

The fairness of a tax and its influence on consumption and production or wages are examined with care and almost always with an effort to be entirely unbiased. Difficulties of administration are explained. Interpretations of constitutionality, Court opinions, and their change in different generations make interesting reading. For example, the income tax, first imposed during the War between the States, was later repealed. When it was reimposed, the Court by a close decision found it to be (1894) fitting for state legislation alone. In 1913 the Sixteenth Amendment put income taxes within the bounds of Federal jurisdiction. The evolution of several taxes is described.

Delays in Court decisions have

In this department are summarized books, articles, and documents of outstanding economic or financial interest. A list of articles, which may be useful to the security analyst, follows the reviews.

Helen Slade is the author of the book reviews. She will cooperate with members of the Society desiring source material for JOURNAL articles and for research projects and studies.

brought about uncertainties in business procedures and in the trend of shares. Because of long waiting periods deterrents to investment are caused. These can be more calamitous in impact than any tax.

Makers of tax programs are deeply concerned by the state of industry. For business must be in a healthy state to support a demanding economic policy. There are reasons for almost every tax, and each can have good or bad influences, on wages, profits, and dividends. Mr. Blough thinks that "any tax measure that reduced the risk of investment would be helpful in enlarging incentives." Although taxes on profits reduce investment incentives more than do taxes restricting consumer markets, the kind of market should be considered. Some are a source of investment, others not. They too affect savings.

In this study every tax is portrayed and its burdens on the public weighed. The book is complete with fine bibliography, and full of ideas and questions over which the reader will ponder for a long time.

TRENDS AND CYCLES IN CORPORATE BOND FINANCING

W. Braddock Hickman
National Bureau of Economic Research

This pamphlet is a summary of a forthcoming book which will contain a tremendous amount of data bearing on corporate bond financing. The pamphlet itself is full of detailed information destined to throw new light on the economies of bond financing.

Current levels of trends are compared with bonded indebtedness before 1900. Shifts in major industries are noted, and the position of corporate bonds in relation to other types of debt is compared. Their development is recorded with full weight given to the influence on capital requirements of business as well as on the outstanding issues of bonds. Generally those industries with heavy fixed capital requirements are the largest issuers of corporate bonds. How they behaved during business cycles and over longer periods is examined in this study.

It is noted that the condition of the equity market, plus corporate earnings, corporate cash balances, and tax considerations, has influenced bonds outstanding. Thus "new-money offerings" may be useful as indicators of the direction of bond yields. Demand for bond financing shows that, the higher the yield, the lower will be the net change in "outstandings."

Generally bond financing runs contrary to other types, and acts as a stabilizing force. This may be seen by comparing turning points in the bond and stock series with turning points in the business cycle. Bond offerings rise through the early part of business expansion. Soon after the upturn in stock offerings, and while general business activity is still falling, the net change in bond "outstandings" turns downward. It is likely that more attractive stock prices cause corporations to change from bond to stock financing. For investors there are some practical guides and illuminating charts.

INTERNATIONAL ECONOMICS

Stephen Enke and Virgil Salera
Prentice-Hall, 724 pp, \$6.65

In these days of the impact of foreign dealings on investments, this second and completely revised and enlarged volume is welcome. It gives a good background for thinking about the results of world economy.

National specialization as it has developed allows most nations to produce that which they can produce most advantageously. Yet there are times when costs have opened new areas.

Reviews

The U. S. financing of underdeveloped nations, and technical aid given them, is held to be of worth by some, whereas others see that this could lead to the United States finding itself with an import surplus.

Trade influences the rate of exchange; when it becomes out of line in world markets, arbitrage operations restore alignments. Of value in this direction are national stabilization funds which came into being during the middle 1930's. Their object was to iron out seasonal and short-term fluctuations in exchange rates. These funds operate by selling or buying their own country's money. The fund performs as does a trader, and uses no compulsion. Since fluctuating exchange rates can be unsettling to business, as can tariffs, gold, and the so-called dollar, shortage described in these chapters will bring much information of a useful nature to students of economic gyrations.

The dollar shortage came into full swing after World War II. Before that time there existed an almost unrestricted buying of dollars in all countries. During the depression of the 1930's when American consumption fell drastically, it became a real problem.

Our exports tend to hold, and, when depression reduces production prices, coupled with nondiscrimination pledges, the results can be far reaching. Controlled disequilibrium is being considered at most monetary conferences. Positive steps are needed to facilitate adjustment processes of exchange and put imports on an even basis. The bibliography on subjects necessary to understand fully the weight of international economics is excellent and complete.

HOW YOU REALLY EARN YOUR LIVING

Lewis H. Haney
Prentice-Hall, 282 pp

Mr. Haney wrote this book in question and answer style in an effort to show a generation used to war that war is not usual to American life. And to give businessmen as well as analysts

a resume of our financial possibilities.

The purpose of most people's savings lies in having funds to invest and for other gratifications. This leads to increased production. The author describes cycles and explains price movements. Taxes are reviewed, cycles charted, and real value interpreted. This is an unusually fine work, especially for those investors who are certain there is still something to learn. For Christmas gifts it will be unsurpassed.

THE BATTLE FOR INVESTMENT SURVIVAL

G. M. Loeb
Barron's, 192 pp, \$2.95

Mr. Loeb discusses some views of the best manner in which to invest successfully for profit. He stresses the need to think of the purchasing power of the dollar in place of the dollar itself. That money need be constantly kept working he does not find entirely desirable. Nor is too much diversification always advisable.

One must aim at making sufficient profits to "offset" the inevitable losses. Most important is to cut losses short and to "follow up profits." Another important factor is the knowledge of tax principles for they cut so deeply into profits. Profits with the care of capital can be more advantageous than aiming at an assured income. In fact, the payment of dividends for years back is no guarantee that this will continue. Successful investment lies in "honest periodic appraisal," always with an eye for selection and timing.

INTERNATIONAL TAX AGREEMENTS, VOLUME III

United Nations
Columbia University Press, 358 pp, \$4

This World Guide to International Tax Agreements, 1843-1951, contains full tables analyzing the status of all international agreements. By this means international double taxation and the avoidance of fiscal evasion may be eliminated.

The general history of bilateral tax agreements is a century old. But the first half-century dealt mostly with limited tax problems. After World War I the increase in income taxes "in the developed countries" brought about a realization of the problems of double taxation, especially those from business enterprises crossing state borders. The growth of tax agreements continued, despite good or bad times.

Since World War II the United Kingdom and the United States "spearheaded" the movements for the conclusion of tax agreements, to further foreign trade and investment. There were new patterns of control of international double taxation. Under the pivotal tax credit clause, definite countries hold tax power over the taxpayer's income, whether it be foreign or domestic. This is of benefit to capital-exporting countries for it eliminate tax deterrents to foreign investments.

This volume contains technical points, documentary material, ratifications, and agreements. The texts of agreements are printed as are the treaties and laws and regulations implementing them. Information given in tables has been confirmed by the governments. Nearly one hundred and fifty countries are covered.

YEARBOOK OF FOOD AND AGRICULTURAL STATISTICS, 1951

United Nations
Columbia University Press
236 pp, \$3.50

This yearbook brings statistical information concerning food and agricultural commodities. Commodities are grouped in sections, and data are based on official Government figures. Among other commodities covered are cotton, tea, sugar, rubber. All effort has been made to present complete tables. This in spite of difficulties of floating supplies and the fluctuations of stocks in bond. "Country Notes" at the end of the volume give much information, which with the tables should be carefully read by all interested in foreign possibilities.

Recent Books, Documents, and Magazine Articles of Financial Interest*

Monetary and Fiscal Subjects

- Comparison of the Depression of 1873 and 1929, *American Economic Review*, Sept 1952.
- Funds for Stability, *Harvard Business Review*, July-August 1952.
- The Banks' Investments, *Economist* (London), July 19, 1952.
- Financial Analysis of 30 Oil Companies for 1951, Chase National Bank.
- Financial Yearbook, 1952, Havana, Departamento 328, Havana, Larrea Building.
- European Payments: an American View, *Lloyds Bank Review*, July 1952.
- The Pinay Experiment, *Bankers*, July 1952.
- Incomes of Physicians, Dentists, and Lawyers, *Survey of Current Business*, July 1952.
- Is Inflation Really Over?, *Changing Times*, Aug 1952.
- Disability Benefits Legislation, *Labor Law Journal*, July 1952.
- What's Next in Pensions?, *US News*, Aug 8, 1952.
- National Income, *Survey of Current Business*, July 1952.
- U. S. Industry: The Real Owners, *US News*, July 11, 1952.
- The Myth about Gold, *National City Bank Monthly Letter*, July-Aug 1952.
- The Problem of Inflation, *Institute of Public Affairs Proceedings*, 1951.
- Financing Large Corporations, *Federal Reserve Bulletin*, June 1952.
- The Price of Money, *Yale Review*, summer 1952.
- Families in Good Position to Buy More, *Sales Management*, June 1952.
- Provision for Capital Exhaustion under Changing Price Levels, *Harvard Law Review*, June 1952.

Economic and Miscellaneous

- The Future of Our Natural Resources, *Annals*, May 1952.
- The Anatomy of Crisis, *Economist* (London), Sept 13, 1952.
- The Significance of Productivity Data, *Harvard Business Review*, July-Aug 1952.
- Production Factors and the Theory of International Trade, *American Economic Review*, Sept 1952.
- Air Cargo Transportation and Marketing, *Journal of Marketing*, July 1952.
- The Boom That Made Canada, *Fortune*, Aug. 1952.
- The Supreme Court and the Steel Seizure, *Labor Law Journal*, July 1952.
- Record of the 82 Congress (2d session) *Editorial Research Reports*.
- Problems of Small Business under the Controlled Materials Plan US House Comm on Small Business, subcomm 3 US 82 Cong 2 sess, HR 2099.
- Postwar Inflationary Trends, *Commercial & Financial Chronicle*, July 10 1952.
- Statistical and Economic Articles in Recent Periodicals, *Royal Statistical Society Journal*, 1952.

- Government Aid to Business Expansion, *American Economic Review*, May 1952.
- The Effect of the Civil War and Two World Wars on American Transportation, *American Economic Review*, May 1952.
- The Policies of Agricultural Subsidies, *Academy of Political Science*, May 1952.
- Can Europe Use American Methods?, *Foreign Affairs*, July 1952.

Industrial

- "Selfish" Arkansas Power, *Fortune*, Oct 1952.
- Asbestos, US National Security Resources Board, Supt of Documents, Feb 1952.
- Survey on Coffee Price Cutting, *Tea & Coffee Trade Journal*, July 1952.
- Chicago Furniture Markets, *Business Week*, Aug 2, 1952.
- Machine Tool Shortages, US Comm on Small Businesses, US 82 Cong, 2 sess, S Rept 1988, Supt of Documents, June 1952.
- The Explosive Chemicals, *Forbes*, Oct. 1, 1952.
- Maritime Lumber, *Canadian Lumberman*, July 1952.
- Study of Monopoly Power Hearings, July-Oct 1951, US 82 Cong, 1 sess, serial 1.
- 1952 Grocers Manual Section, *Chain Store Age*, July 1952.
- New Product Development, Conference Board, Studies in Business Policy no. 57.
- Paper Yearbook, vol 10, Davidson Publishing Co.
- Entry into the Oil Refining Business, *Yale Law Journal*, July 1952.
- What Is Happening in the Frozen Food Case?, *Progressive Grocer*, July 1952.
- Electric Power in Ontario, *Canadian Banker*, spring 1952.
- Defense Expenditures and the National Economy, *Annals*, Sept 1952.
- Steel in Suspense, *Economist* (London), Aug 23, 1952.
- Paper Making Economics, *Paper Industry*, June 2, 1952.

Taxes

- Michigan Tax Survey, 1952, report to the Legislative Tax and Revenue Study Comm.
- The Relations of Taxation and Borrowing in the Defense Program, *Western Economic Association Proceedings*, 1951.
- Excess Profits Taxes of Commercial Banks, *Federal Reserve Bulletin*, June 1952.
- Toll Roads and the Crises in Highway Finance, *National Tax Journal*, June 1952.
- Categorical Inequalities in Assessment in Nebraska, 1930-195—*National Tax Journal*, June 1952.
- The Lawyer and Taxation, *American Bar Association Journal*, July 1952.
- Death Duties and Double Taxation, *National Tax Journal*, June 1952.
- Federal Income Taxation of Mutual Savings Banks, *Taxes*, June 1952.
- The New Federal Income Tax on Savings Institutions, *Certified Public Accountant*, June 1952.

*All articles and documents listed in this section may be found in the economics division, room 228, of the New York Public Library.

Professor Bliss's Reading List

This reading list, presented by Professor Charles A. Bliss of the Harvard Business School and reprinted from the *Harvard Business School Bulletin*, will undoubtedly be of interest to readers of *THE ANALYSTS JOURNAL*.

Here is the line-up suggested by Professor Bliss for busy businessmen who would keep up with the economic world. The total investment per year equals approximately \$35.

Economic Indicators, monthly, Council of Economic Advisers, \$2 per year.

Survey of Current Business, monthly, Department of Commerce, \$3.25 per year, and *Business Statistics Supplement*, biennial, Department of Commerce, \$1.50 per copy.

Federal Reserve Charts on Bank Credits, Money Rates, and Business, monthly, and *Historical Supplement* to the above with records back to 1919, \$6 per year.

Federal Reserve Bulletin, monthly, \$2 per year.

Economic Report of the President and its supplement, *Economic Review of the Council of Economic Advisers*, annual, 50 cents per copy.

(All the above are Government publications available from the U.S. Superintendent of Documents, Washington, D. C.)

Monthly Letter of the National City Bank of New York, free.

London Economist, London, weekly, 3 pounds per year.

ANALYSTS JOURNAL, quarterly, \$4 per year.

Harvard Business Review, bimonthly, \$6 per year.

Also: *Fortune*, *Business Week*, and similar news magazines.

November 24 and 25 . . . Save These Dates

Second Eastern Regional Conference and Field Trips

New York Society of Security Analysts

PLANS ARE RAPIDLY TAKING SHAPE for a "bigger-and-better-than-ever" Eastern Regional Conference of Security Analysts on Monday and Tuesday, November 24 and 25. William R. White, chairman of the forum committee of the New York Society of Security Analysts, is chairman and director in charge of the Eastern Regional Conference.

Monday, November 24, will be featured by industry forums at the Hotel Statler addressed by outstanding speakers and market analysts on a variety of subjects including electronics, oils, aluminum and other light metals, chemicals, synthetic textiles, agricultural implements, autos and accessories, railroads, and public utilities.

The noon luncheon program will be devoted to stock market forecasts by recognized authorities. Two prominent corporation presidents are expected to address the dinner meeting on subjects closely related to the outlook for industry profits. Please save this date on your calendar, and arrange now for your firm to take a table at this interesting dinner session.

A series of interesting field trips in and near New York has been arranged for Tuesday, November 25, for those attending the conference who wish to participate in this activity. As far as possible, reservations for field trips will be made in the order of receipt of applications. Tours will include visits to:

Bridgeport Brass plants in Bridgeport.

General Foods plants and distribution centers in New Jersey.

DuMont Laboratories in Clifton, where members will be taken to the museum and plants.

Merck & Company plant and research laboratories in Rahway, New Jersey.

Long Island lighting facilities and territory. This trip includes other utilities in the area.

Worthington Corporation and its vicinity.

Pennsylvania Railroad will sponsor a boat trip around Manhattan Island. This will include complete inspection of railroad yards and descriptions of the Pennsylvania Railroad facilities and several industries.

Most of these trips are limited in capacity—so make reservations at once.

Luncheon Forum Talks

NEW YORK SOCIETY OF SECURITY ANALYSTS

SINCE JUNE 30, 1952

<i>Date</i>	<i>Speaker</i>	<i>Topic</i>
Aug 5	Arnold Bernhard Lucien O. Hooper John Wescott	Outlook for the Stock Market
Aug 7	C. B. Waller President of corporation	Unexcelled Chemical Corp.
Aug 13	H. L. Nichols Chairman of board W. F. Stanley Vice-president of company	Southwestern Public Service Co.
Aug 26	Dr. Morris R. Neifeld Economist	Beneficial Loan Corp.
Aug 28	Malcolm A. Schweiker President of company	American Encaustic Tiling Co.
Sept 2	Gordon H. Chambers President and treasurer, Foote Minerals Co.	"Rare Earth" Minerals and Titanium
Sept 5	B. L. England, President, Edison Electric Institute and Atlantic City Electric Co.	Outlook for the Electric Utility Industry
Sept 10	L. M. Klauber Chairman of board	San Diego Gas & Electric Co.
Sept 11	Fred Denig Vice-president of company	Koppers Co.
Sept 15	B. Barrett Griffith Investment counsel	The Gold Shares and the Stock Market
Sept 16	Frank M. Porter President, American Petroleum Institute	The Economic Results of Oil and Gas Conservation
Sept 17	Dean Mitchell President of company	Northern Indiana Public Service Co.
Sept 18	D. C. Minard President, Trane Co.	Air-Conditioning Industry
Sept 19	Lee Schoenen Edward H. Tevritz F. Henry Van Ells Charles Warren Caswell	Round Table on Railroad Outlook
Sept 24	Dr. James C. Bonbright Professor of finance, Columbia University James A. Lyles Vice-president, First Boston Corp. Dr. Alexander Sachs Economist	Utility Rate of Return from the Investor's Viewpoint
Sept 25	R. E. Reimer Vice-president and treasurer	Dresser Industries, Inc.
Sept 26	William R. Coe Vice-president and treasurer	Virginian Railway Co.
Sept 30	Samuel Nass Secretary and treasurer	Gimbel Bros.

Fifth Midwest Forum

National Federation of Financial Analysts Societies

Sponsored by Investment Analysts Society of Chicago
January 20 and 21, 1953

Tuesday, January 20

2:15-3:45

Panel Discussions

The Outlook for Natural Gas

Moderator: P. P. Stathas

Speakers: Gardiner Symonds, President, Tennessee Gas Transmission
James F. Oates Jr., Chairman, Peoples Gas Boulevard Room, 7th floor, University Club of Chicago

Place: Boulevard Room, 7th floor, University Club of Chicago

2:15-3:45

Research in Chemicals and Drugs

Moderator: Corliss Anderson

Speakers: Ernest Volwiler, President, Abbott Laboratories
To be announced, Union Carbide

Place: B Room, 8th floor, University of Chicago

4:00-5:30

New Developments in Electronics

Moderator: Arthur O'Hara

Speakers: J. W. McRae, Vice-President, Bell Telephone Laboratories
Robert W. Galvin, Executive Vice-President, Motorola, Inc.

Place: Boulevard Room

4:00-5:30

The Economic Outlook

Moderator: E. P. Rubin

Speakers: To be announced

Place: B Room

5:45-6:45

Hospitality Hour, College Hall, University Club of Chicago

7:00-9:00

Dinner, Cathedral Hall, University Club of Chicago

Principal Speaker: Dr. Robert E. Wilson, Chairman, Standard Oil Company (Indiana)

Wednesday, January 21

Field Trips

Trip A

All-day trip. Transportation, luncheon, and refreshments provided

Sinclair Research Laboratory, Harvey, Illinois
Sinclair Refinery, East Chicago, Indiana

Trip B

Morning: Illinois Bell Telephone Company, automatic long-distance exchange, microwave relay station
Afternoon: Chicago Tribune Plant; WGN Radio and Television

Admissions to NYSSA Membership

July 10 to August 27, 1952

BILSKI, Berthold, Eisele & King, Libaire, Stout & Co.,
50 Broadway, New York

BROWN, Samuel D., Whitehouse & Co., 115 Broadway,
New York

BRUNS, Henry G., T. L. Watson & Co., 40 Wall St.,
New York

CAFFREY, Edward R., E. I. duPont deNemours & Co.,
DuPont Bldg., Wilmington, Del.

CHATELLIER, John L. Jr., Mutual Life Insurance Co. of
N. Y., 1740 Broadway, New York

COOK, J. Franklin, Kidder, Peabody & Co., 17 Wall St.,
New York

CUNNINGHAM, Thomas D. Jr., H. N. Whitney, Goadby &
Co., 49 Wall St., New York

DANFORTH, Dana H., Danforth-Epply Corp., Babson Park,
Mass.

GORTON, Monte J., Bache & Co., 36 Wall St., New York

HANF, Arthur H., Mutual Life Insurance Co. of N. Y.,
1740 Broadway, New York

KAPPELMAN, Allan E., George D. B. Bonbright & Co.,
100 Powers Bldg., Rochester

KRAFT, Philip, Newmont Mining Corp., 14 Wall St.,
New York

LEVEN, Stephane, Lambert & Co., 2 Wall St., New York

McMULLEN, Joseph Harold, McMullen, Park & Hard,
120 Broadway, New York

McVITTIE, C. Archibald, Dick & Merle-Smith, 30 Pine St.,
New York

RITGER, Frank J., American Fore Group, 80 Maiden Lane,
New York

SETTLEMIRE, J. Ralph, American Gas & Electric Service
Corp., 30 Church St., New York

SHARPE, Ernest, Goodbody & Co., 115 Broadway, New York

SOFTY, Alfred E., Edison Electric Institute,
420 Lexington Ave., New York

Newport News Shipbuilding and Dry Dock Company

Quarterly Statement of Billings, Estimated Unbilled Balance of Major Contracts and Number of Employees

Billings during the period:	Three Fiscal Months Ended		Nine Fiscal Months Ended	
	Sept. 22, 1952	Sept. 24, 1951	Sept. 22, 1952	Sept. 24, 1951
Shipbuilding contracts	\$11,992,763	\$ 6,898,922	\$49,028,303	\$25,937,036
Ship conversions and repairs . .	10,239,364	8,437,402	35,113,664	21,225,444
Hydraulic turbines and accessories .	1,431,108	1,570,858	3,465,624	3,536,534
Other work and operations	2,159,545	1,749,264	7,667,911	5,745,477
Totals	\$25,822,780	\$18,656,446	\$95,275,502	\$56,444,491
Estimated balance of major contracts unbilled at the close of				
the period		At Sept. 22, 1952	At Sept. 24, 1951	
		\$299,615,713	\$383,174,597	
Number of employees at the close of the period		16,146	13,377	

The Company reports income from long-term shipbuilding contracts on the percentage-of-completion basis; such income for any period will therefore vary from the billings on the contracts. Contract billings and estimated unbilled balances are subject to possible adjustments resulting from statutory and contractual provisions

By Order of the Board of Directors

R. I. FLETCHER, Vice President and Comptroller

October 22, 1952



"A Family of
Famous Names"

The Board of Directors of Avco Manufacturing Corporation has declared a quarterly dividend of 15 cents a share on the Common Stock payable December 20, 1952, to stockholders of record November 28, 1952.

R. S. Pruitt, Secretary

420 Lexington Ave.
New York 17, N.Y.
October 30, 1952

WHEN YOU CHANGE YOUR ADDRESS

Please notify us promptly of your old as well as your new location. Otherwise an issue may miss you. (Members of The New York Society of Security Analysts, please notify the Secretary of the Society.)

If your copy is addressed BEFORE your notice reaches us, it will be necessary for you to send us forwarding postage.

Subscription Department, Room 908
THE ANALYSTS JOURNAL
20 Broad Street, New York 5, N. Y.

SOUTHERN NATURAL GAS COMPANY

Birmingham, Alabama

Common Stock Dividend No. 55

A dividend of 35 cents per share has been declared on the Common Stock of Southern Natural Gas Company, payable December 12, 1952 to stockholders of record at the close of business on November 28, 1952.

The above dividend is payable on the total number of shares to be outstanding on the record date, giving effect to the distribution of one additional share for each share outstanding on November 5, 1952. Certificates for such additional shares will be mailed commencing November 7, 1952.

H. D. McHENRY,
Secretary

Dated: October 25, 1952.

Common and Preferred DIVIDEND NOTICE

October 22, 1952

The Board of Directors of the Company has declared the following dividends, all payable on December 1, 1952, to stockholders of record at the close of business October 31, 1952:

Security	Amount per Share
Preferred Stock, 5.50% First Preferred Series.....	\$1.45*
Preferred Stock, 4.75% Convertible Series.....	\$1.18¾
Preferred Stock, 4.50% Convertible Series.....	\$1.12½
Common Stock.....	\$0.25

*Period from August 26, 1952.

Josephine
Secretary

TEXAS EASTERN
SHREVEPORT

Transmission Corporation
LOUISIANA

The ANALYSTS JOURNAL

PUBLISHED BY
THE NEW YORK SOCIETY OF
SECURITY ANALYSTS, INC.

Contents

Articles and transcripts of speeches of particular interest to
Security Analysts.

Publication Dates

The Analysts Journal is published in March, May, August,
and November.

Subscription Rates

\$4.00 per year in the United States.

\$4.50 (in New York funds) per year outside the United
States.

Individual Copies

\$1.25 in the United States.

\$1.50 (in New York funds) outside the United States.

THE ANALYSTS JOURNAL

20 Broad Street, Room 908
New York 5, N. Y.

Date

- ☐ Please enter my subscription for one year of THE ANALYSTS JOURNAL, beginning with the — March, — May, — August, — November issue.

Check for \$....., payable to THE ANALYSTS JOURNAL, enclosed herewith.

- ☐ Please send me a copy of the (month) issue of THE ANALYSTS JOURNAL. Check for \$..... enclosed.

Name (please print)

Firm

Street

City, Zone No., State

5-52 AJ

Index to Advertisers

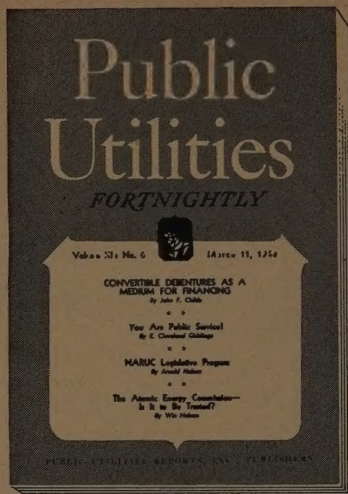
+

Air Reduction Co.	92
Allegheny Ludlum Steel Corp.	89
American Telephone & Telegraph Co.	8
American Viscose Corp.	101
Anaconda Copper Mining Co.	74
Analysts Journal	118, 119
Armco Steel Corp.	38
Avco Manufacturing Corp.	118
Beneficial Loan Corp.	32
Bowne & Co.	45
Celanese Corp. of America	1
Cities Service Co.	60
Columbia Gas System	73
Commercial Solvents Corp.	80
Consolidated Natural Gas Co.	73
Daystrom, Inc.	83
Delta Air Lines, Inc.	84
Dennison Manufacturing Co.	38
Edison, Thomas A., Inc.	59
Ferro Corp.	24
Gartley & Associates	13
Goodyear Tire & F Co.	58
Gulf Oil Corp.	3
Home Insurance Co.	98
Lynch Corp.	58
Mathieson Chemical Corp.	50
Minneapolis Gas Co.	58
National Distillers Products Corp.	73
Newport News Shipbuilding & Dry Dock Co.	118
Oliver Corp.	89
Panhandle Eastern Pipeline Co.	41
Pittsburgh Plate Glass Co.	2d cover
Pure Oil Co.	4
Radio Corp. of America	101
Rockwell Manufacturing Co.	36
Rome Cable Corp.	89
Safeway Stores	36
Sinclair Oil Corp.	4th cover
Southern California Edison Co.	36, 38
Southern Co.	97
Southern Natural Gas Co.	118
Standard Steel Spring Co.	23
Suburban Propane Gas Corp.	83
Texas Eastern Transmission Corp.	118
Union Oil Co. of California	3d cover
Utah Power & Light Co.	65
West Penn Electric Co.	2
Wiley, John, & Sons	45
Yale & Towne Manufacturing Co.	101

For the

SECURITY ANALYST

*... a primary source
of important information
about the public utility industry*



AMONG the many practical and unique values of PUBLIC UTILITIES FORTNIGHTLY to security analysts and others interested in the financial and related aspects of the utilities, is the fact that each issue contains timely information on the over-all utility industry scene, not assembled elsewhere in a single publication. Moreover, the leading articles, written by competent observers, and a major part of the material in the several regular departments of the magazine constitute a primary source of authoritative and pertinent information covering the many and varied factors entering into the conduct of the utility business. Most of this material, by way of interpretation and analysis, is available from no other source.

The FORTNIGHTLY brings its readers a well-rounded report every two weeks of major happenings of interest and concern, relating to finance, management, operation and other matters coming within the scope of utility regulation and allied topics. Thus, the FORTNIGHTLY serves as an essential supplement to the customary statistical and other data which analysts normally gather regarding security issues of utility companies.



The FORTNIGHTLY is Published
Every Other Thursday—26 Issues
a Year—Annual Subscription
\$15

Financial Articles

The broader aspects of financial questions are frequently discussed in leading articles, bringing to light the results of major problems in finance. Over a period of more than 20 years, the FORTNIGHTLY has specialized in the important field of regulation and allied subjects pertaining to all branches of the utilities—electric, gas, pipeline, telephone, transit and water companies.

Featured Departments

Departmentalized for convenient reading are these special sections of the magazine which appear regularly: Washington and the Utilities, Exchange Calls and Gossip, Financial News and Comment, What Others Think, Progress of Regulation, The March of Events and Industrial Progress. This material has been found especially helpful to investment interests.

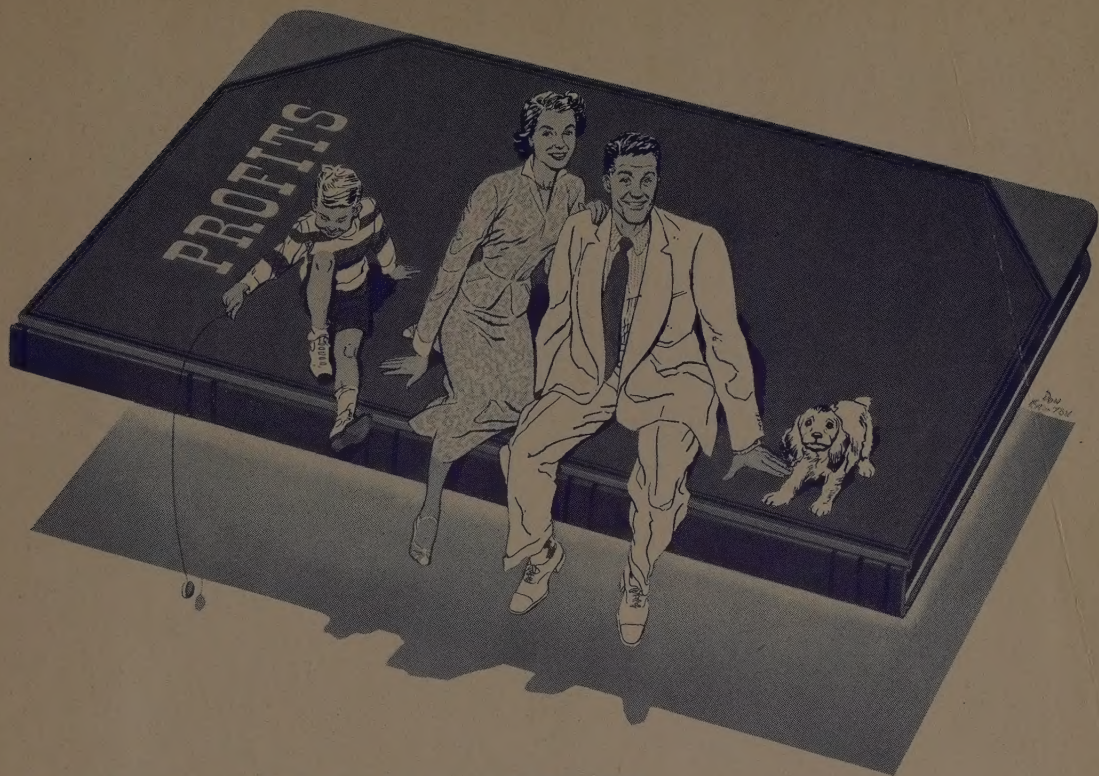
Financial News and Comment

Particular attention is given by the editorial staff to the financial activities of the utility industries. Among the many classifications of subjects covered are: Earnings data, new financing, refundings, forecasts, reorganizations, mergers, sales, regulations relating to financial operations, and statistical reviews, embracing original charts, graphs and special studies.

PUBLIC UTILITIES FORTNIGHTLY

Published by—

PUBLIC UTILITIES REPORTS, INC.
309 Munsey Building, Washington 4, D.C.



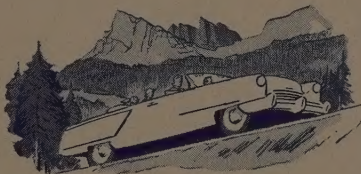
HOW THE PROFIT SYSTEM BENEFITS YOU

1. Shortly after the end of World War II we brought out a brand new super gasoline called 7600—a high octane aviation fuel adapted to automobile operating conditions. The performance of 7600 was so superior to anything the average motorist had experienced that it was months before we could supply our stations with enough to satisfy the demand.



4. It didn't take us long to decide on the desirability of increasing our facilities for making 7600—although the program represents an investment of many millions of dollars. For we reasoned that by maintaining the quality of 7600 we would get enough additional business to make a profit out of our investment.

2. Today 7600 is still the top-quality gasoline in the West by a comfortable margin. For its quality has steadily improved from year to year. But in one way 7600 has been a rather embarrassing success—for we haven't always been able to keep pace with the demand for it.



5. This profit incentive is the driving force behind our whole competitive economic system. It has given the American people the best products, in the greatest abundance, at the lowest cost in the world. That's why any attempt to tax away this profit incentive is bound to lower the standard of living of every American.

3. In order to keep up with this demand we were faced with doing one of two things: (1) reduce the quality of 7600 so that we could make more of it, or (2) undertake a program to increase our output of high octane super quality gasoline.

MANUFACTURERS
OF ROYAL TRITON
THE AMAZING
PURPLE
MOTOR OIL!



Available at
leading car dealers
throughout the nation

UNION OIL COMPANY OF CALIFORNIA
INCORPORATED IN CALIFORNIA, OCTOBER 17, 1890

This series, sponsored by the people of Union Oil Company, is dedicated to a discussion of how and why American business functions. We hope you'll feel free to send in any suggestions or criticisms you have to offer. Write: The President, Union Oil Company, Union Oil Building, Los Angeles 17, Calif.

"BIRDS OF A FEATHER..."

American Airlines again led all other domestic lines in 1951 with a total volume of over 2.5 billion passenger miles! American's passenger load also increased, as did its daily use of aircraft; all reliable indications of profitable operations. Significantly, too, American continues to be one of the country's *lowest* cost operators.

Sinclair lubricants helped American accomplish this remarkable performance record. American's aircraft maintenance standards are of the highest in the business; and year after year, in fact for 18 years without interruption, American has used Sinclair aircraft engine oil *exclusively!*

Constantly, more and more "leaders" look to Sinclair. Complete comprehension of every phase of lubrication produces the superior Sinclair oils and greases that prove worthy of this trust . . . and gives added proof that Sinclair is a leader in the highly competitive petroleum industry.



SINCLAIR
A Great Name in Oil